					DEPARTMENT					AMENI	FC DED REPOR	RM 3	
		AF	PPLICATION FO	OR PERM	IT TO DRILL				1. WELL NAME and NUMBER  Morgan State 921-36I1BS				
2. TYPE O	2. TYPE OF WORK  DRILL NEW WELL ( REENTER P&A WELL ) DEEPEN WEL								3. FIELD OR WILDCA	T NATURAL	.BUTTES		
4. TYPE OF WELL  Gas Well Coalbed Methane Well: NO									5. UNIT or COMMUNI			ENT NAM	1E
6. NAME (	OF OPERATOR								7. OPERATOR PHONE				
KERR-MCGEE OIL & GAS ONSHORE, L.P.  8. ADDRESS OF OPERATOR									9. OPERATOR E-MAI	720 92 L	9-6515		
P.O. Box 173779, Denver, CO, 80217  10. MINERAL LEASE NUMBER  11. MINERAL OWNERSHII									julie.j  12. SURFACE OWNER		anadarko	.com	
(FEDERAL, INDIAN, OR STATE) ML 22265 FEDERAL INDIAN						DIAN 🔵	STATE 📵	) FEE	FEDERAL IN	DIAN 🔵	STATE	© F	EE 🔵
13. NAME	OF SURFACE	OWNER (if box 12	= 'fee')						14. SURFACE OWNE	R PHONE	(if box 12	= 'fee')	
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')									16. SURFACE OWNE	R E-MAIL	(if box 12	: = 'fee')	
		R TRIBE NAME			TEND TO COMM		RODUCTION	FROM	19. SLANT				
(If box 12	! = 'INDIAN')			1 '	CON .		ng Applicatio	n) NO	VERTICAL DI	RECTION	AL 📵 H	HORIZON	TAL 🔵
20. LOC/	ATION OF WELI	-		FOOTAGE	S	QTR	R-QTR	SECTION	TOWNSHIP	R/	ANGE	МЕ	ERIDIAN
LOCATIO	N AT SURFACI		209	96 FSL 729	9 FEL	NE	ESE	36	9.0 S	2	1.0 E		S
Top of U	Fop of Uppermost Producing Zone 2568 FSL 493 FEL				NE	ESE	36	9.0 S	2	1.0 E		S	
At Total			256	88 FSL 493	3 FEL	NE	ESE	36	9.0 S	2	1.0 E		S
						REST LEA 493		et)	23. NUMBER OF ACR	ES IN DRI 63		IT	
25. DISTANCE TO NEAREST (Applied For Drilling or Cor						eted)	POOL	26. PROPOSED DEPT	<b>'H</b> : 10561	TVD: 105	10		
27. ELEVATION - GROUND LEVEL 28. BOND NUMBER 5036 22:					22013	542		29. SOURCE OF DRIL WATER RIGHTS APPR		MBER IF A	PPLICAB	LE	
					Hole, Casing			mation					
String	Hole Size	Casing Size	Length	Weight	Grade & T	hread	Max Mu	d Wt.	Cement		Sacks	Yield	Weight
Surf	12.25	8.625	0 - 2580	28.0	J-55 LT	T&C	0.2	2	Type V Class G		180 270	1.15	15.8 15.8
Prod	7.875	4.5	0 - 10561	11.6	HCP-110	LT&C	13.0	0 Pr	emium Lite High Stre	ength	320	3.38	12.0
									50/50 Poz		1530		14.3
					A	TTACHN	MENTS						
	VEF	RIFY THE FOLLO	WING ARE AT	TACHED I	N ACCORDAN	ICE WITH	H THE UTAI	H OIL AND GA	S CONSERVATION O	SENERA	L RULES		
<b>₩</b> w	ELL PLAT OR M	AP PREPARED BY	LICENSED SURVE	YOR OR E	NGINEER		COMPLETE DRILLING PLAN						
AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)						FORM	5. IF OPERATOR	IS OTHER THAN THE L	EASE OW	NER			
DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)					)	торос	GRAPHICAL MAF						
NAME D	anielle Piernot			TITLE R	egulatory Analys	t		PHONE 72	0 929-6156				
SIGNATU	IRE			DATE 12	2/19/2011			EMAIL dar	ielle.piernot@anadarko.	com			
	BER ASSIGNED 047522900			APPROV	/AL		Brooseyill						
							Permit Manager						

Morgan State 921-36I Pad Drilling Program
1 of 9

# Kerr-McGee Oil & Gas Onshore. L.P.

# **MORGAN STATE 921-36I1BS**

Surface: 2096 FSL / 729 FEL NESE BHL: 2568 FSL / 493 FEL NESE

Section 36 T9S R21E

Unitah County, Utah Mineral Lease: ML-22265

#### **ONSHORE ORDER NO. 1**

#### **DRILLING PROGRAM**

# 1. & 2.a <u>Estimated Tops of Important Geologic Markers</u>: <u>Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations</u>:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
	0.0.6	
Uinta	0 - Surface	
Green River	1,333'	
Birds Nest	1,654'	Water
Mahogany	2,131'	Water
Wasatch	4,585'	Gas
Mesaverde	7,245'	Gas
Sego	9,410'	Gas
Castlegate	9,477'	Gas
MN5	9,910'	Gas
TVD =	10,510'	
TD =	10,561'	

2.c Kerr McGee Oil & Gas Onshore LP (Kerr McGee) will either drill to the the Blackhawk formation, which is part of the Mesaverde formation, or the Wasatch/Mesaverde formation. If Kerr McGee drills to the Blackhawk formation (part of the Mesaverde formation), please refer to MN5 as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr McGee drills to the Wasatch/Mesaverde formation please refer to Sego as the bottom formation. The attached Wasatch/Mesaverde Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the depths the Wasatch/Mesaverde formations are found.

# 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

API Well Number: 43047522900000

Morgan State 921-36I Pad

Drilling Program
2 of 9

# 4. Proposed Casing & Cementing Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

### 5. <u>Drilling Fluids Program:</u>

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

### 6. <u>Evaluation Program</u>:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

# 7. <u>Abnormal Conditions</u>:

### 7.a Blackhawk (Part of Mesaverde Formation) Target Formation

Maximum anticipated bottom hole pressure calculated at 10510' TVD, approximately equals 6,937 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,672 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

# 7.b Wasach/Mesaverde Target Formation

Maximum anticipated bottom hole pressure calculated at 9410' TVD, approximately equals 6,022 psi (0.64 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,939 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

### 8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

#### 9. <u>Variances:</u>

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- · Blowout Prevention Equipment (BOPE) requirements;
- · Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

Morgan State 921-36I Pad Drilling Program

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooic line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

## Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Morgan State 921-36I Pad Drilling Program
4 of 9

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

## Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

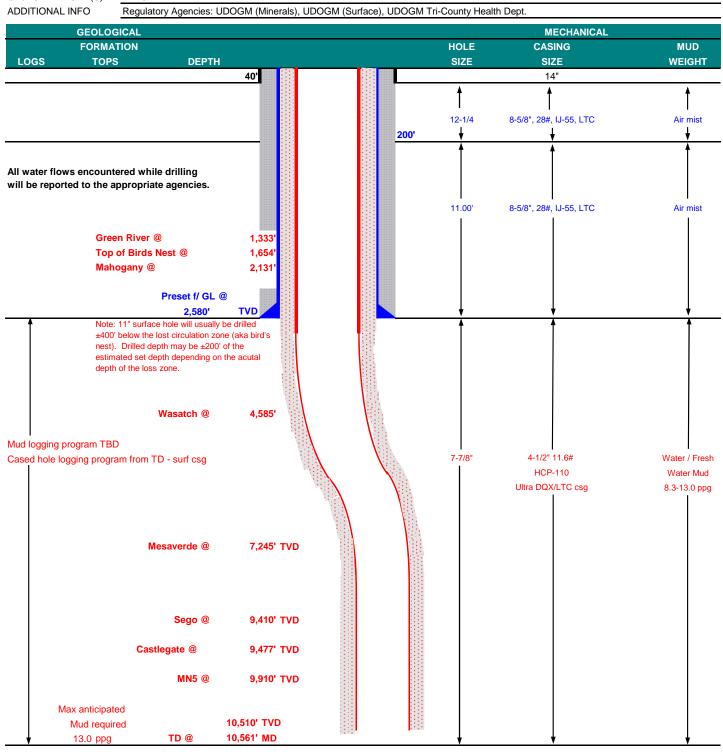
## 10. Other Information:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program



# KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

COMPANY NAME KER	R-McGEE OIL &	GAS ONSHORE	LP		DATE	December	19, 2011		
WELL NAME MO	RGAN STATI	E 921-36I1BS		TD	10,510'	TVD	10,561' MD		
FIELD Natural Butte	S	COUNTY	TY Uintah STATE		ΓΑΤΕ Utah		SHED ELEVATION _	5,035'	
SURFACE LOCATION	NESE	2096 FSL	729 FEL	Sec 36	T 9S	R 21E			
	Latitude:	39.991111	Longitude	de: -109.492577			NAD 27		
BTM HOLE LOCATION	NESE	2568 FSL	493 FEL	Sec 36	T 9S	R 21E			
	Latitude:	39.992393	Longitude	e: -109.49	1733		NAD 27		
OBJECTIVE ZONE(S)	BLACKHAWK						· · · · · · · · · · · · · · · · · · ·		
ADDITIONAL INFO Regulatory Agencies: LIDOGM (Minerals), LIDOGM (Surface), LIDOGM Tri-County Health Dept									





# KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

**CASING PROGRAM DESIGN FACTORS** LTC DQX INTERVAL CPLG. **COLLAPSE TENSION** SIZE GR. **BURST** WT. CONDUCTOR 14" 0-40' 3,390 1,880 348,000 N/A 8-5/8" 2,580 28.00 IJ-55 SURFACE 0 LTC 1.56 5.50 2.09 N/A to 8,650 10,690 279,000 367,174 HCP-110 **PRODUCTION** 0 5.000 11.60 4-1/2" to DQX 1.19 1.22 3.74 4-1/2" 5,000 to 10,561 11.60 HCP-110 LTC 1.19 1.22 5.40

**Surface Casing:** 

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD					
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15					
Option 1		+ 0.25 pps flocele									
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15					
		+ 2% CaCl + 0.25 pps flocele									
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized									
Option 2 LEAD	2,080'	65/35 Poz + 6% Gel + 10 pps gilsonite	190	35%	11.00	3.82					
		+ 0.25 pps Flocele + 3% salt BWOW									
TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15					
		+ 0.25 pps flocele									
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15					
PRODUCTION LEAD	4,081'	Premium Lite II +0.25 pps	320	35%	12.00	3.38					
		celloflake + 5 pps gilsonite + 10% gel									
		+ 0.5% extender									
TAIL	6,480'	50/50 Poz/G + 10% salt + 2% gel	1,530	35%	14.30	1.31					
		+ 0.1% R-3									
	*O . I . ("C	agle valume plue 00/ evenes for LEAD if ecourate as	Paragraph of the Color	1							

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.

# **ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys	will	be	taken	at	1	,000'	minimum	interval	S

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

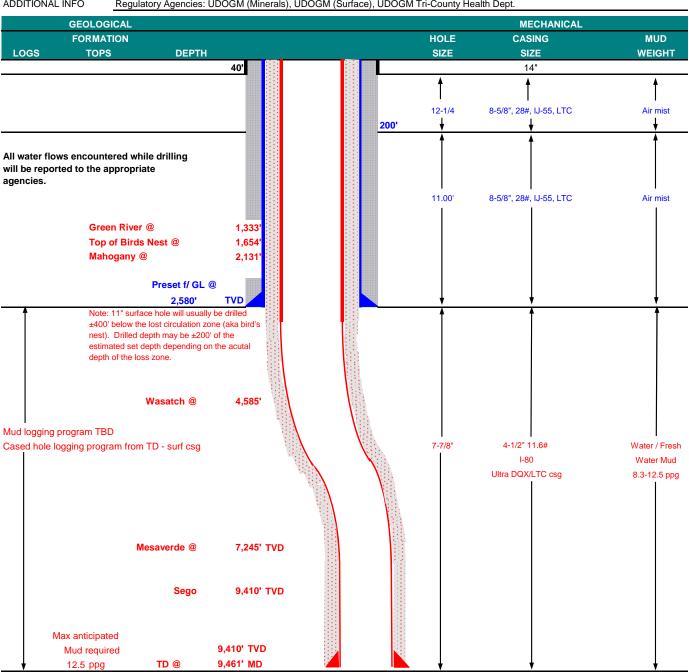
	Most rigs have PVT System for mu	a monitoring. If no PVT is available, visual monitoring will be utili	zeu.	
DRILLING	ENGINEER:		DATE:	
		Nick Spence / Danny Showers / Chad Loesel		
DRILLING	SUPERINTENDENT:		DATE:	
		Kenny Gathings / Lovel Young		

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained



# KERR-McGEE OIL & GAS ONSHORE LP WASATCH/MESAVERDE DRILLING PROGRAM

COMPANY NAME KER	R-McGEE OIL	& GAS ONSHORI	E LP		DATE	Decembe	December 19, 2011			
WELL NAME MORGAN STATE 921-36I1BS						9,410'	TVD	9,461' MD		
FIELD Natural Butte	S	COUNTY Uintah		STATE Utah		FINISHED ELEVATION		5,035'		
SURFACE LOCATION	NESE	2096 FSL	729 FEL	Sec 36	T 9S	R 21E				
	Latitude:	39.991111	Longitude:	-109.492	2577		NAD 27			
BTM HOLE LOCATION	NESE	2568 FSL	493 FEL	Sec 36	T 9S	R 21E				
	Latitude:	39.992393	Longitude:	-109.49	1733		NAD 27			
OBJECTIVE ZONE(S)	Wasatch/Mes	averde								
ADDITIONAL INFO	Regulatory A	rencies: LIDOGM	(Minerals) LID	OGM (Surfa	a) LIDC	GM Tri-Count	v Health Dent			





# **KERR-McGEE OIL & GAS ONSHORE LP**

WASATCH/MESAVERDE DRILLING PROGRAM

CASING PROGRAM	<u>/</u>	DESIGN FACTORS									
										LTC	DQX
	SIZE	INT	INTERVAL			GR.	CPLG.	BURST	COLLAPSE	TE	NSION
CONDUCTOR	14"	C	)-40'								
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,580	28.00	IJ-55	LTC	2.09	1.56	5.50	N/A
								7,780	6,350		267,035
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	1.04		3.01
								7,780	6,350	223,000	
	4-1/2"	5,000	to	9,461'	11.60	I-80	LTC	1.11	1.04	5.33	

**Surface Casing:** 

(Burst Assumptions: TD = 12.5 0.73 psi/ft = frac gradient @ surface shoe ppg)

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 0.64 psi/ft = bottomhole gradient psi)

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

# **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD			
SURFACE LEA	D 500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15			
Option 1		+ 0.25 pps flocele							
TOP OUT CMT (6 job	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15			
		+ 2% CaCl + 0.25 pps flocele							
SURFACE	JRFACE NOTE: If well will circulate water to surface, option 2 will be utilized								
Option 2	2,080'	65/35 Poz + 6% Gel + 10 pps gilsonite	190	35%	11.00	3.82			
		+ 0.25 pps Flocele + 3% salt BWOW							
TA	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15			
		+ 0.25 pps flocele							
TOP OUT CN	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15			
PRODUCTION LEA	D 4,081'	Premium Lite II +0.25 pps	320	35%	12.00	3.38			
		celloflake + 5 pps gilsonite + 10% gel							
		+ 0.5% extender							
TA	5,380'	50/50 Poz/G + 10% salt + 2% gel	1,270	35%	14.30	1.31			
		+ 0.1% R-3							

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

## **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.

# ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

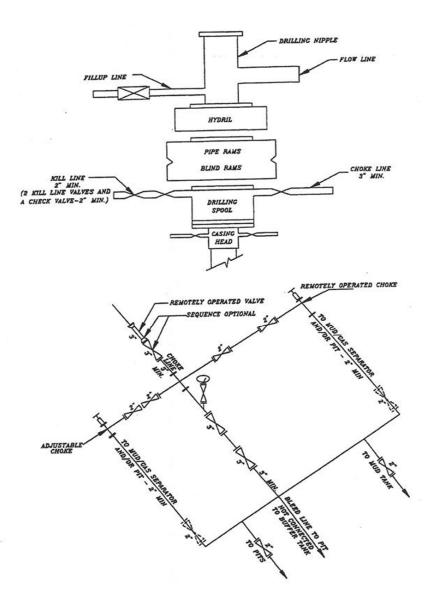
BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals	s.
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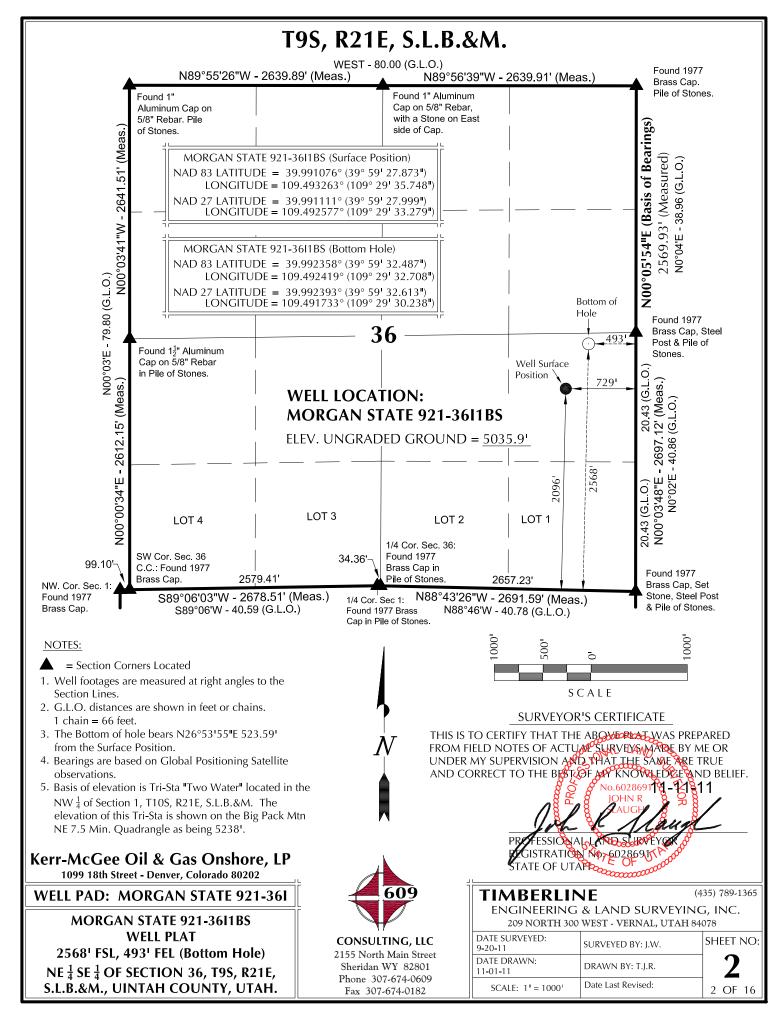
	Most rigs have PVT System for mu	d monitoring. If no PVT is available, visual monitoring will be utilize	ea.	
DRILLING	ENGINEER:		DATE:	
		Nick Spence / Danny Showers / Chad Loesel		
DRILLING	SUPERINTENDENT:		DATE:	
		Kenny Gathings / Lovel Young		

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

EXHIBIT A
MORGAN STATE 921-3611BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



WELL NAME	SURFACE POSITION  NAD83 NAD27								E	OTTOM HOLE		
			DE 1.1====		ONGER	FOCT		NAD		NAC		FOCT: 5-5
MORGAN STATE	<b>LATITUDE</b> 39°59'27.810"	109°29'35.0			ONGITUDE 9°29'33.180"	FOOTAGES 2090' FSL	39°59'2		LONGITUDE 109°29'32.711"	<b>LATITUDE</b> 39°59'29.342"	<b>LONGITUDE</b> 109°29'30.242"	FOOTAGES
921-3611CS	39.991058°	109°29 35.0			9°29'33.180" 9.492550°	722' FEL	39.991		109°29'32./11" 109.492420°	39.991484°	109°29'30.242" 109.491734°	2237' FSL 493' FEL
MORGAN STATE	39°59'27.873"	109°29'35.	748" 39°59'27.	999" 109	9°29'33.279"	2096' FSL	39°59'3		109°29'32.708"		109°29'30.238"	2568' FSL
921-36I1BS	39.991076° 39°59'27.936"	109.493263			9.492577°	729' FEL	39.9923 39°59'3		109.492419° 109°29'32.704"	39.992393° 39°59'35.439"	109.491733°	4931 FEL
MORGAN STATE 921-36H4CS	39.59.27.936° 39.991093°	109°29'35.8 109.493291			9°29'33.378" 9.492605°	2102' FSL 737' FEL	39.993		109°29'32./04" 109.492418°	39°59°35.439° 39.993177°	109°29'30.234"  109.491732°	2402' FNL 493' FEL
MORGAN STATE 921-36H4BS	39°59'28.000" 39.991111°	109°29'35.9 109.493318		126" 109	9°29'33.476" 9.492632°	2108' FSL 745' FEL	39°59'3 39.9940		109°29'32.698" 109.492416°	39°59'38.709" 39.994086°	109°29'30.228" 109.491730°	2071 FNL 493 FEL
MORGAN STATE 12-36	39°59'26.847" 39.990791°	109°29'35.0 109.493233			9°29'33.170" 9.492547°	1992' FSL 721' FEL						
			RELAT	IVE COC	ORDINATES -	- From Surfac	e Position	to Botto	om Hole			
WELL NAME	NORTH	EAST	WELL NAME	NORT	H EAS		NAME	NOR	TH EAST	WELL NAM	_	EAST
MORGAN STATE 921-36I1CS	142.31	228.8'	MORGAN STATE 921-3611BS	466.9	9' 236.	9 <sup>1</sup> MORG 921-36	AN STATE H4CS	746.	5' 245.0'	MORGAN STA 921-36H4BS	1071.1	253.2
	S.L.B.&M GLOBAL OBSERV	. WHICH IS POSITION	DN 36, T9S, R S TAKEN FRO ING SATELLIT D BEAR NOO°C	M E 5'54"E.	E-1100.62' Hole C.2' - N18.42	1.0.53.56.898 10.807# 2861. 10.80465.47.8961. 8040m 1.523. 10.8339.		A LE	7. 58.12833° 8.07.42"E - 26	3,46	•	ottom of lole
	Gee Oil 8				● <b>EXI</b> (Dry	STING W Hole Mark	.09 ELL: <b>M</b>		SCAL SAN STATE	- E	109	
Kerr-Mc	Gee Oil 8	Gas O	nshore, I		10		.09 ELL: <b>M</b>		N SCAL	- E	,09	
Kerr-Mc(	Gee Oil & 8th Street - De	C Gas O	nshore, I	.P ≕⊧	10	Hole Mark	.09 ELL: <b>M</b>	MORO	S C A L	E 12-36		35) 790 1267
Kerr-Mc0	Gee Oil & 8th Street - De	C Gas O	nshore, I	.P ≕⊧	10		.09 ELL: <b>M</b>	AORO TI	SCAL  SAN STATE	E 12-36	(4:	35) 789-1365
Kerr-McC 1099 13 WELL PAI	Gee Oil & 8th Street - De D - MORG L PAD INTE	CGas Onver, Colors	Inshore, Indo 80202 ATE 921-3	.P ≕⊧	10	Hole Mark	.09 ELL: <b>M</b>	AORO TI	SCAL  SAN STATE  MBERL  NGINEERIN	E 12-36	(4: SURVEYING	i, INC.
Kerr-McC 1099 13 WELL PAI WEL WELL	Gee Oil & 8th Street - De D - MORG L PAD INTE	C Gas Onver, Colora  GAN STA  ERFERENCE  STATE 921	Inshore, I ado 80202 ATE 921-3 E PLAT -3611CS,	.P ≕⊧	• EXI (Dry	Hole Mark	,09 (FELL: N	AORO	SCAL  SAN STATE  MBERL  NGINEERIN 209 NORTH	E 12-36	(4: SURVEYING NAL, UTAH 840	i, INC. 078
Kerr-McC 1099 13 WELL PAI WEL WEL	Gee Oil & 8th Street - De D - MORG L PAD INTE LS - MORGAN MORGAN STA	CGAS Onver, Colora  GAN STA  RFERENCE STATE 921-361	enshore, I ado 80202 ATE 921-3 CE PLAT -3611CS, 1BS,	.P ≕⊧	© EXI (Dry	Hole Mark	7.09 Tell: N	AORO	S C A L  SAN STATE  MBERL  NGINEERIN 209 NORTH  SURVEYED:	E 12-36	(4: SURVEYINC CNAL, UTAH 840	i, INC.
Kerr-McC 1099 13 WELL PAI WELL WELL	Gee Oil & 8th Street - De D - MORO L PAD INTE LS - MORGAN MORGAN STA MORGAN STA	CGAS ON COLOR COLO	enshore, I ado 80202 ATE 921-3 EF PLAT -3611CS, 1BS, 14CS &	.P ≕⊧	© EXI (Dry	Hole Mark  609  ULTING, LL  orth Main Str	OPELL: N	TI E DATE 9-20-DATE	SCAL  SAN STATE  MBERL  NGINEERIN 209 NORTH  SURVEYED: 11 EDRAWN:	E 12-36  INE IG & LAND 300 WEST - VER SURVEYED B	(4: SURVEYINC INAL, UTAH 840	i, INC. 078
Kerr-McC 1099 13 WELL PAI WEL WEL	Gee Oil & 8th Street - De D - MORG L PAD INTE LS - MORGAN MORGAN STA	CGAS Onver, Color CAN STA ERFERENC STATE 921-361 TE 921-361 TE 921-361	enshore, l ado 80202 ATE 921-3 E PLAT -3611CS, 1BS, 14CS & 14BS	.P ≕⊧	© EXI (Dry  CONSI 2155 No. Sherida	Hole Mark	C ceet 1	TI E DATE 9-20-DATE 11-01	SCAL  SAN STATE  MBERL  NGINEERIN 209 NORTH  SURVEYED: 11 EDRAWN:	E 12-36  INE IG & LAND 300 WEST - VER	(4: SURVEYINC CNAL, UTAH 840 Y: J.W. T.J.R.	i, INC. 078

**TOTAL WELL PAD AREA = 4.00 ACRES TOTAL DISTURBANCE AREA = 5.51 ACRES SHRINKAGE FACTOR = 1.10** SWELL FACTOR = 1.00

# Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

# **WELL PAD - MORGAN STATE 921-36I** WELL PAD - LOCATION LAYOUT

**MORGAN STATE 921-36I1CS,** MORGAN STATE 921-3611BS, **MORGAN STATE 921-36H4CS & MORGAN STATE 921-36H4BS** LOCATED IN SECTION 36, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH



2155 North Main Street

Sheridan, WY 82801

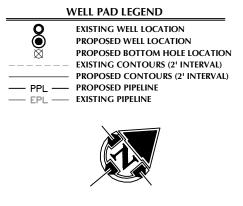
Phone 307-674-0609 Fax 307-674-0182

EXCESS MATERIAL = 1,926 C.Y.

# **RESERVE PIT QUANTITIES**

**TOTAL CUT FOR RESERVE PIT** +/- 10,730 C.Y. RESERVE PIT CAPACITY (2' OF FREEBOARD) +/- 41,190 BARRELS

**TIMBERLINE** 



60<sup>1</sup> HORIZONTAL E 1" = 60" 21 CONTOURS

**SCALE:** 1"=60" DATE: 11/11/11 SHEET NO: b

6 OF 16

**REVISED:** 

(435) 789-1365 ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

**SHRINKAGE FACTOR = 1.10 SWELL FACTOR = 1.00** 

# Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

# **WELL PAD - MORGAN STATE 921-36I**

WELL PAD - LOCATION LAYOUT **MORGAN STATE 921-36I1CS,** MORGAN STATE 921-3611BS, **MORGAN STATE 921-36H4CS & MORGAN STATE 921-36H4BS** LOCATED IN SECTION 36, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH



2155 North Main Street

Sheridan, WY 82801

Phone 307-674-0609 Fax 307-674-0182

# **COMPLETIONS PIT QUANTITIES**

TOTAL CUT FOR COMPLETIONS PIT +/- 8.580 C.Y. **COMPLETIONS PIT CAPACITY** (21 OF FREEBOARD) +/- 32,680 BARRELS

**TIMBERLINE** ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

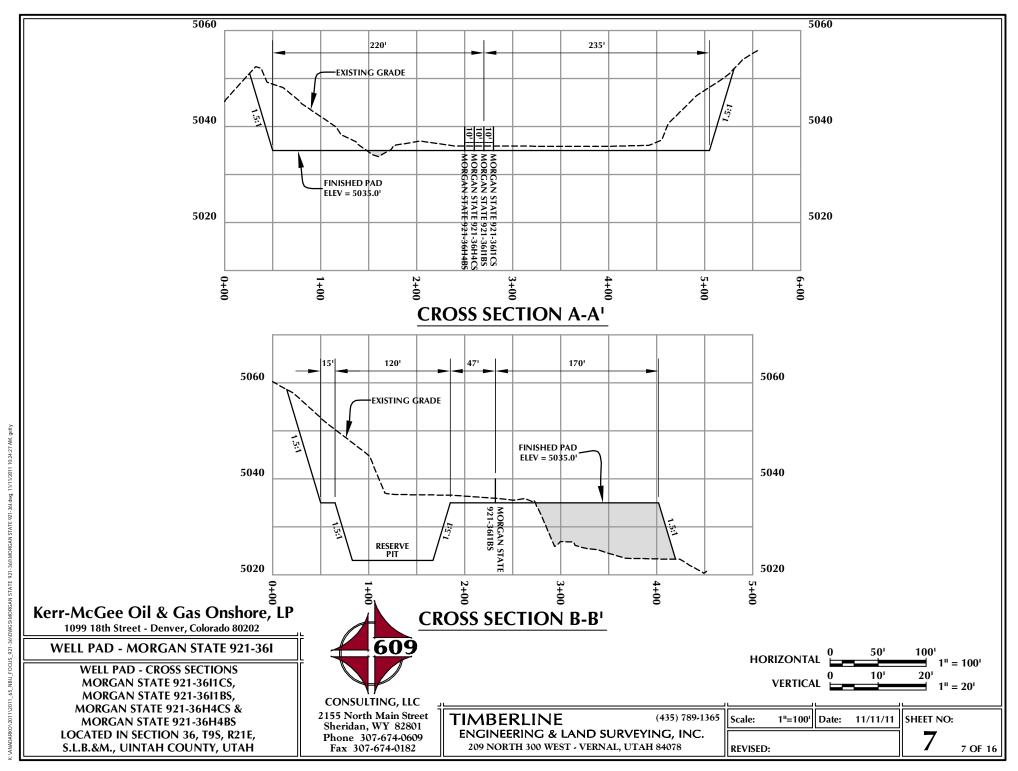
(435) 789-1365 **SCALE:** 1"=60" DATE: 11/15/11 SHEET NO:

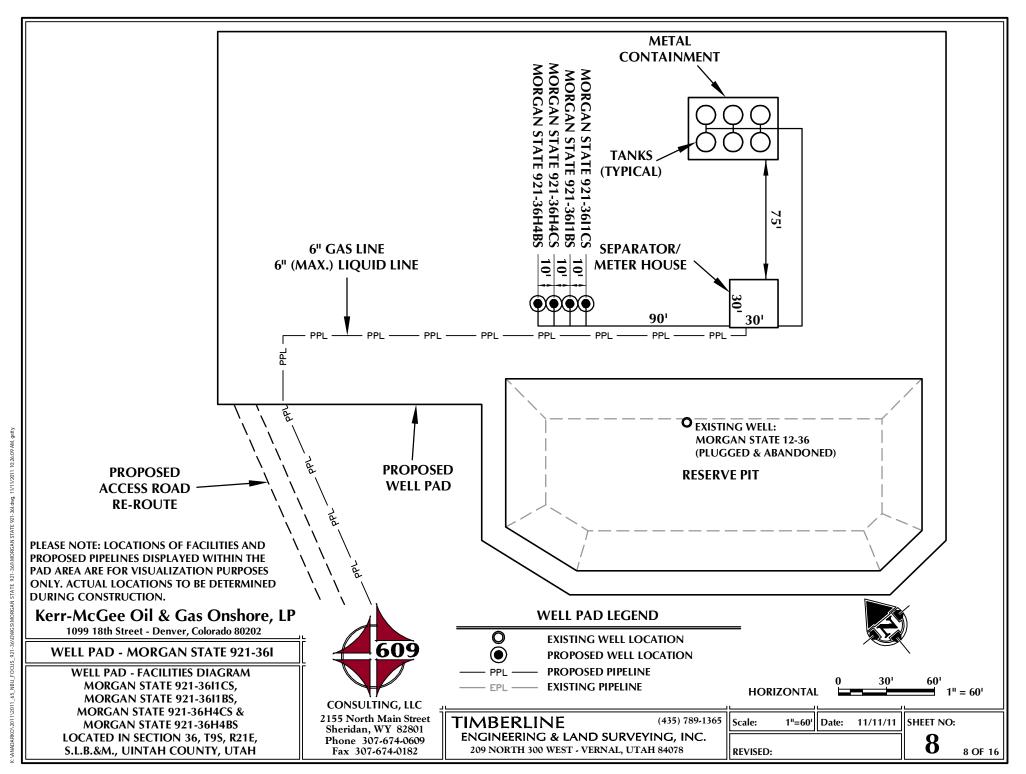
**REVISED:** 

60<sup>1</sup> HORIZONTAL E 21 CONTOURS

6B 6B OF 16

RECEIVED: December 19, 2011





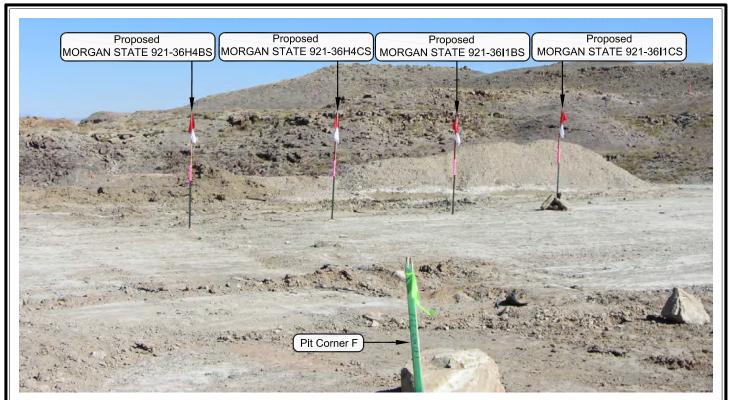


PHOTO VIEW: FROM PIT CORNER F TO LOCATION STAKE

**CAMERA ANGLE: NORTHEASTERLY** 



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

**CAMERA ANGLE: NORTHEASTERLY** 

# Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

# WELL PAD - MORGAN STATE 921-36I

**LOCATION PHOTOS** MORGAN STATE 921-36I1CS, MORGAN STATE 921-3611BS, MORGAN STATE 921-36H4CS & MORGAN STATE 921-36H4BS LOCATED IN SECTION 36, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.



## CONSULTING, LLC 2155 North Main Street

Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

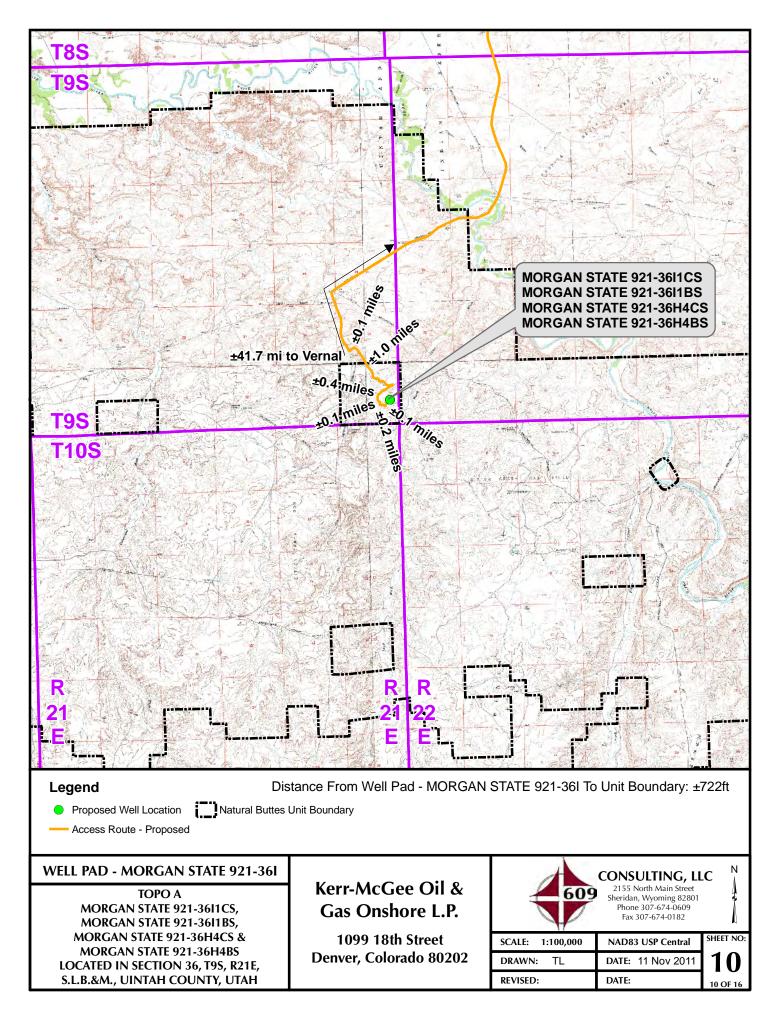
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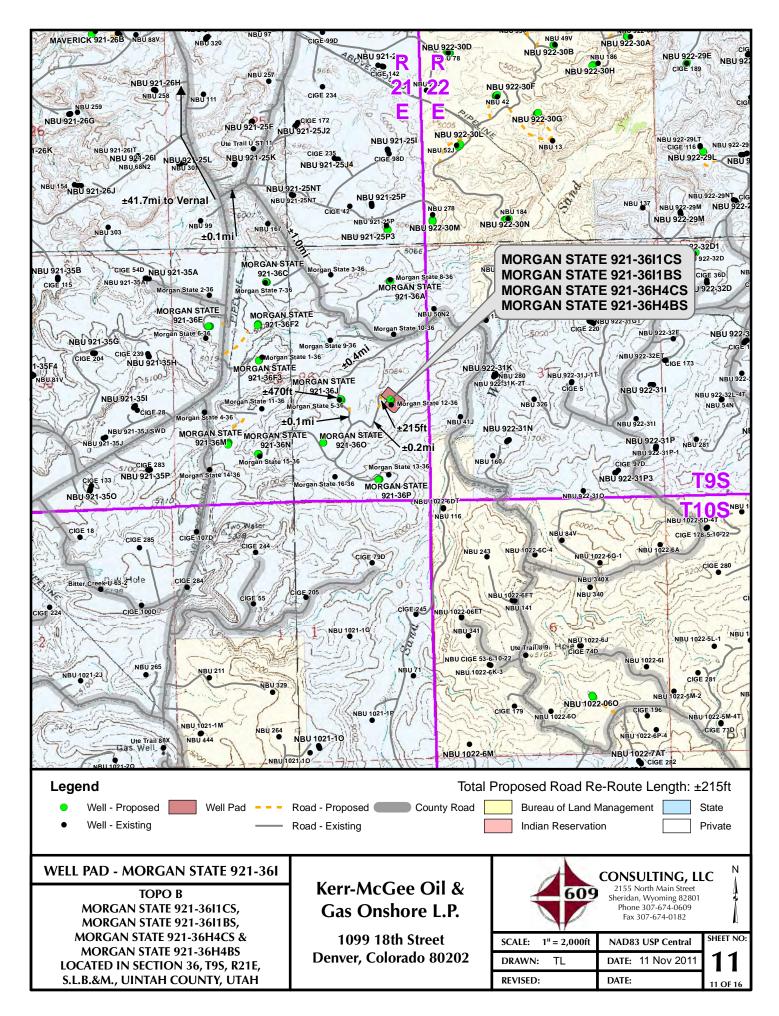
(435) 789-1365

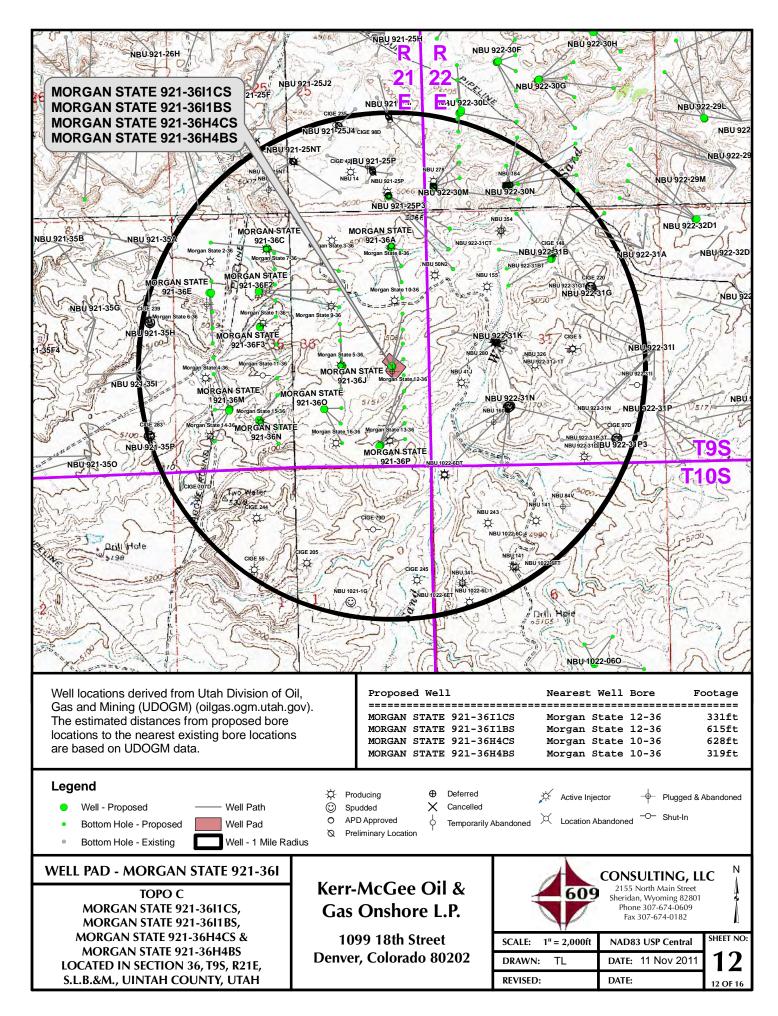
9 OF 16

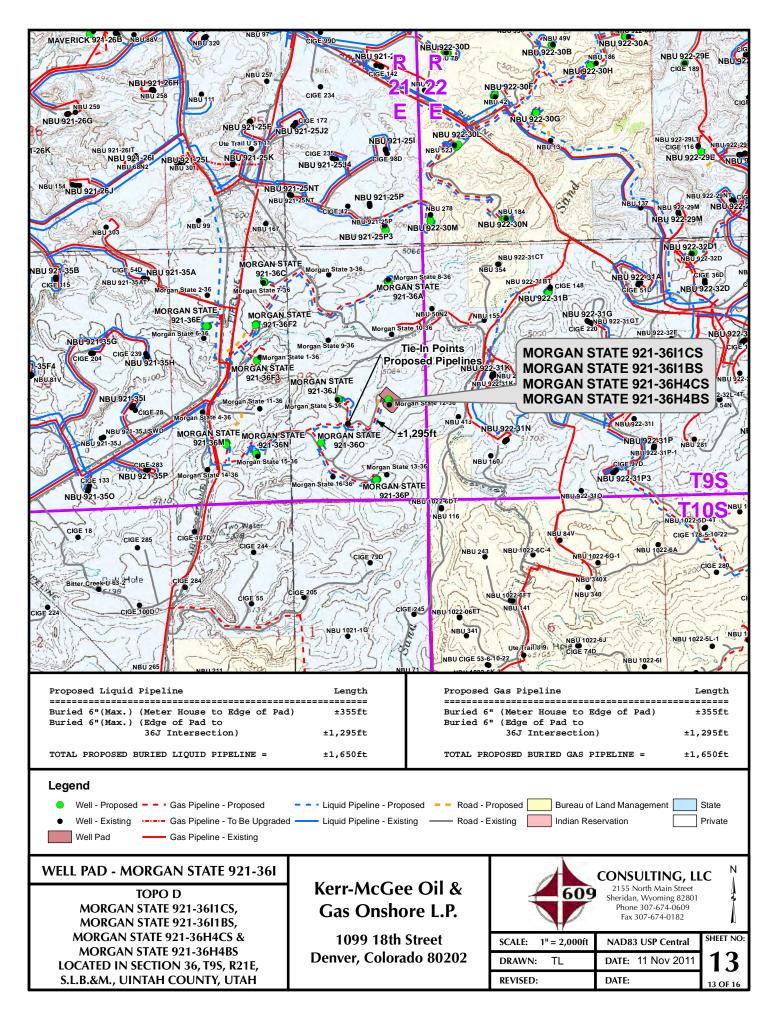
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

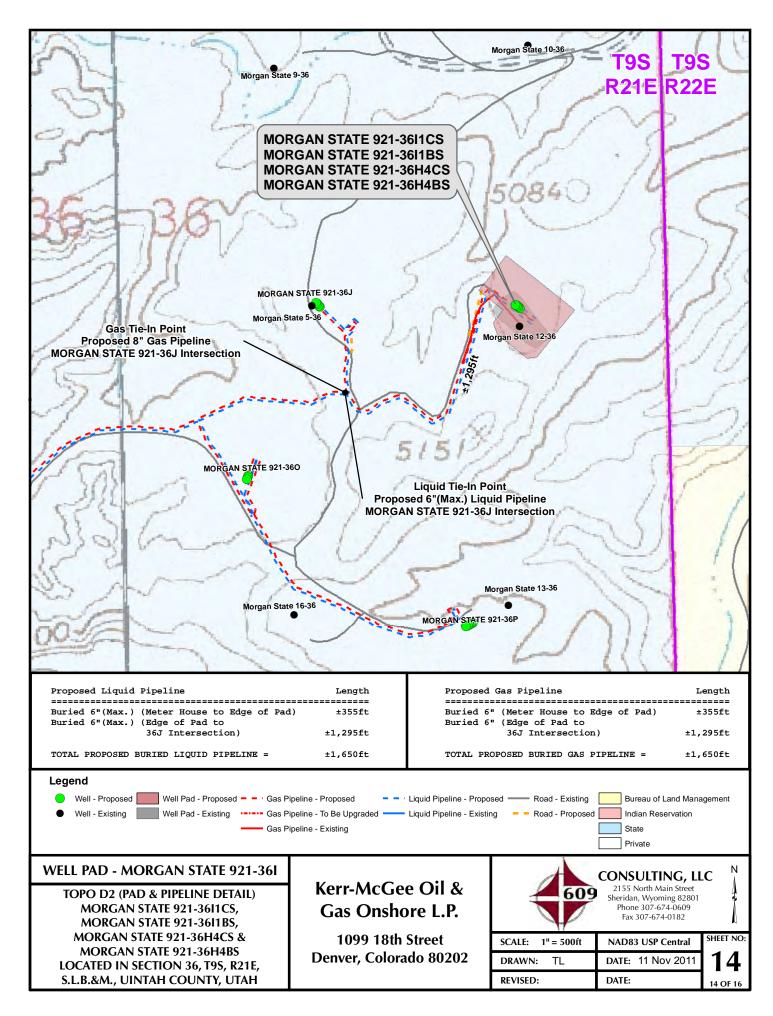
DATE PHOTOS TAKEN: 9-20-11	PHOTOS TAKEN BY: J.W.	SHEET NO:
DATE DRAWN: 11-01-11	DRAWN BY: T.J.R.	9
Date Last Revised:		9 OF 16

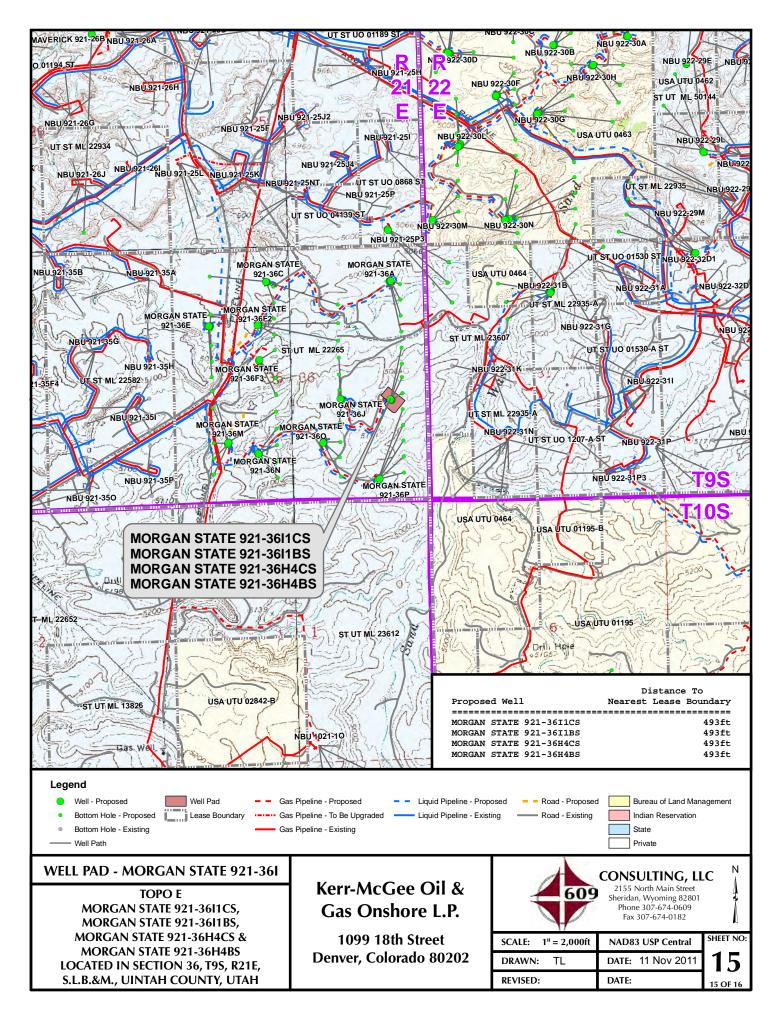












# Kerr-McGee Oil & Gas Onshore, LP WELL PAD – MORGAN STATE 921-36I WELLS – MORGAN STATE 921-36I1CS, MORGAN STATE 921-36I1BS, MORGAN STATE 921-36H4CS & MORGAN STATE 921-36H4BS Section 36, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 18.2 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road to the southeast. Exit right and proceed in a southeasterly direction along the second Class D County Road approximately 1.0 miles to a service road to the southwest. Exit right and proceed in a southwesterly direction approximately 0.4 miles to the proposed MORGAN STATE 921-36J well pad. Proceed in a southeasterly direction approximately 470 feet through the proposed MORGAN STATE 921-36J well pad to a second service road to the south. Proceed in a southerly direction along the second service road approximately 0.1 miles to a third service road to the northeast. Exit left and proceed in a northeasterly direction along the third service road approximately 0.2 miles to the proposed access road to the northeast. Follow road flags in a northeasterly direction approximately 215 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 43.6 miles in a southerly direction.

**SHEET 16 OF 16** 

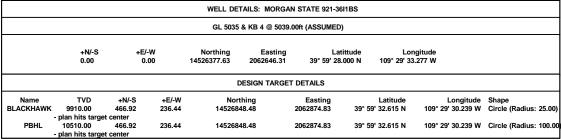
API Well Number: 43047 52220 00000 - UTM (feet), NAD27, Zone 12N

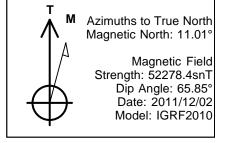
Site: MORGAN STATE 921-36I Well: MORGAN STATE 921-36I1BS

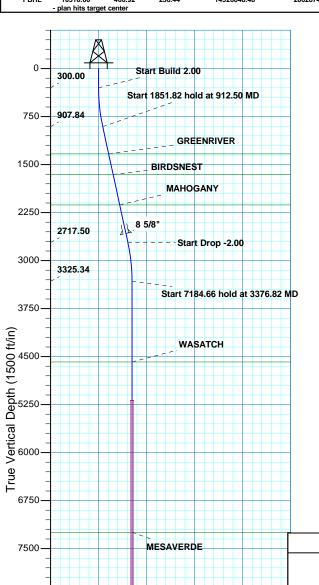
Wellbore: OH

Design: PLAN #1 PRELIMINARY









BLACKHAWK

TD at 10561.48

1500

Vertical Section at 26.86° (1500 ft/in)

2250

3000

750

8250

9000

9750

10500

11250

-750

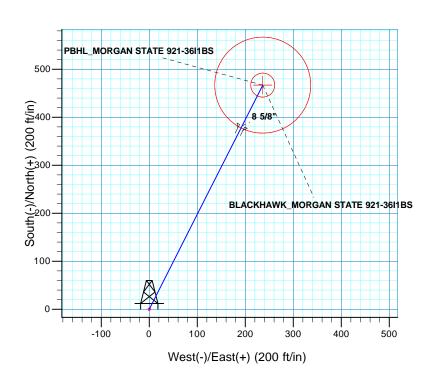
SEGO

CASTLEGATE

10510.00

Scientific Drilling

Rocky Mountain Operations



SECTION DETAILS											
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect Target			
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00			
912.50	12.25	26.86	907.84	58.19	29.47	2.00	26.86	65.23			
2764.32	12.25	26.86	2717.50	408.72	206.98	0.00	0.00	458.14			
3376.82	0.00	0.00	3325.34	466.92	236.44	2.00	180.00	523.37			
10561.48	0.00	0.00	10510.00	466.92	236.44	0.00	0.00	523.37 PBHL_MORGAN STATE 921-3611BS			
								FORMATION TOP DETAILS			
PROJECT DETAILS:	IITAH - I	ITM (fo	ot) NAD27	Zone 12N							

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N	TVDPath	MDPath	Formation	
Geodetic System: Universal Transverse Mercator (US Survey Feet) Datum: NAD 1927 (NADCON CONUS) Ellipsoid: Clarke 1866 Zone: Zone 12N (114 W to 108 W) Location: SECTION 36 T9S R21E System Datum: Mean Sea Level	1333.00 1654.00 2131.00 4585.00 7245.00 9410.00 9477.00 9910.00	1347.56 1676.04 2164.15 4636.48 7296.48 9461.48 9528.48 9961.48	GREENRIVER BIRDSNEST MAHOGANY WASATCH MESAVERDE SEGO CASTLEGATE BLACKHAWK	
CASING DETAILS				

TVD 2581.00 MD 2624.64 Name 8 5/8" Size 8.625

Plan: PLAN #1 PRELIMINARY (MORGAN STATE 921-36I1BS/OH)

RECEIVED:

Created By: RobertScott Date: 9:58, December 02 2011 API Well Number: 43047522900000



# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36I MORGAN STATE 921-36I1BS

OH

Plan: PLAN #1 PRELIMINARY

# **Standard Planning Report**

02 December, 2011



API Well Number: 43047522900000



# **SDI**Planning Report



**Database:** EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: MORGAN STATE 921-36I
Well: MORGAN STATE 921-36I1BS

Wellbore: OH

Geo Datum: Map Zone:

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36I1BS

GL 5035 & KB 4 @ 5039.00ft (ASSUMED) GL 5035 & KB 4 @ 5039.00ft (ASSUMED)

True

Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Zone 12N (114 W to 108 W) System Datum: Mean Sea Level

Site MORGAN STATE 921-36I, SECTION 36 T9S R21E

Northing: 14,526,390.12 usft Site Position: Latitude: 39° 59' 28.126 N From: Lat/Long Easting: 2,062,630.69 usft Longitude: 109° 29' 33.475 W **Position Uncertainty:** 0.00 ft Slot Radius: **Grid Convergence:** 0.97 13.200 in

Well MORGAN STATE 921-36I1BS, 2096 FSL 729 FEL

 Well Position
 +N/-S
 -12.75 ft
 Northing:
 14,526,377.64 usft
 Latitude:
 39° 59' 28.000 N

 +E/-W
 15.41 ft
 Easting:
 2,062,646.31 usft
 Longitude:
 109° 29' 33.277 W

Position Uncertainty 0.00 ft Wellhead Elevation: Ground Level: 5,035.00 ft

Wellbore ОН Field Strength Magnetics **Model Name** Sample Date Declination Dip Angle (nT) (°) (°) IGRF2010 2011/12/02 11.01 65.85 52.278

PLAN #1 PRELIMINARY Design Audit Notes: Version: Phase: PLAN Tie On Depth: 0.00 **Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 26.86

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
912.50	12.25	26.86	907.84	58.19	29.47	2.00	2.00	0.00	26.86	
2,764.32	12.25	26.86	2,717.50	408.72	206.98	0.00	0.00	0.00	0.00	
3,376.82	0.00	0.00	3,325.34	466.92	236.44	2.00	-2.00	0.00	180.00	
10,561.48	0.00	0.00	10,510.00	466.92	236.44	0.00	0.00	0.00	0.00 F	PBHL_MORGAN STA



# **SDI**Planning Report



Database: EDM5000-RobertS-Local Company: US ROCKIES REGION P

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

Site: MORGAN STATE 921-36I
Well: MORGAN STATE 921-36I1BS

Wellbore: OH

Project:

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-3611BS GL 5035 & KB 4 @ 5039.00ft (ASSUMED) GL 5035 & KB 4 @ 5039.00ft (ASSUMED)

True

sign:	PLAN #1 PRE	LIMINARY							
nned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2	.00								
400.00	2.00	26.86	399.98	1.56	0.79	1.75	2.00	2.00	0.00
500.00	4.00	26.86	499.84	6.23	3.15	6.98	2.00	2.00	0.00
600.00	6.00	26.86	599.45	14.00	7.09	15.69	2.00	2.00	0.00
700.00	8.00	26.86	698.70	24.87	12.60	27.88	2.00	2.00	0.00
800.00	10.00	26.86	797.47	38.83	19.66	43.52	2.00	2.00	0.00
900.00	12.00	26.86	895.62	55.85	28.28	62.60	2.00	2.00	0.00
912.50	12.25	26.86	907.84	58.19	29.47	65.23	2.00	2.00	0.00
Start 1851.82	2 hold at 912.50	MD							
1,000.00	12.25	26.86	993.35	74.76	37.86	83.79	0.00	0.00	0.00
1,100.00	12.25	26.86	1,091.08	93.68	47.44	105.01	0.00	0.00	0.00
1,200.00	12.25	26.86	1,188.80	112.61	57.03	126.23	0.00	0.00	0.00
1,300.00	12.25	26.86	1,286.52	131.54	66.61	147.45	0.00	0.00	0.00
		20.00			74 47	457.54	0.00	0.00	0.00
1,347.56	12.25	26.86	1,333.00	140.55	71.17	157.54	0.00	0.00	0.00
GREENRIVE		00.00	4.004.04	450.47	70.00	400.00	0.00	0.00	0.00
1,400.00	12.25	26.86	1,384.24	150.47	76.20	168.66	0.00	0.00	0.00
1,500.00	12.25	26.86	1,481.97	169.40	85.78	189.88	0.00	0.00	0.00
1,600.00	12.25 12.25	26.86	1,579.69	188.33	95.37	211.10	0.00	0.00	0.00
1,676.04	12.23	26.86	1,654.00	202.72	102.66	227.23	0.00	0.00	0.00
BIRDSNEST									
1,700.00	12.25	26.86	1,677.41	207.26	104.95	232.32	0.00	0.00	0.00
1,800.00	12.25	26.86	1,775.14	226.19	114.54	253.54	0.00	0.00	0.00
1,900.00	12.25	26.86	1,872.86	245.12	124.13	274.75	0.00	0.00	0.00
2,000.00	12.25	26.86	1,970.58	264.05	133.71	295.97	0.00	0.00	0.00
2,100.00	12.25	26.86	2,068.31	282.97	143.30	317.19	0.00	0.00	0.00
2,164.15	12.25	26.86	2,131.00	295.12	149.45	330.80	0.00	0.00	0.00
MAHOGANY									
2,200.00	12.25	26.86	2,166.03	301.90	152.88	338.41	0.00	0.00	0.00
2,300.00	12.25	26.86	2,263.75	320.83	162.47	359.62	0.00	0.00	0.00
2,400.00	12.25	26.86	2,361.48	339.76	172.05	380.84	0.00	0.00	0.00
2,500.00	12.25	26.86	2,459.20	358.69	181.64	402.06	0.00	0.00	0.00
2.600.00	12.25	26.86	2,556.92	377.62	191.23	423.28	0.00	0.00	0.00
2,600.00	12.25	26.86	2,556.92	382.28	191.23	423.26 428.51	0.00	0.00	0.00
8 5/8"	12.23	20.00	2,001.00	002.20	190.09	720.01	0.00	0.00	0.00
2,700.00	12.25	26.86	2,654.64	396.55	200.81	444.50	0.00	0.00	0.00
2,764.32	12.25	26.86	2,717.50	408.72	206.98	458.14	0.00	0.00	0.00
Start Drop -2		20.00	2,7 17.00	100.72	250.55	100.17	0.00	0.00	0.00
2,800.00	11.54	26.86	2,752.41	415.28	210.30	465.50	2.00	-2.00	0.00
2,900.00	9.54	26.86	2,850.72	431.60	218.56	483.78	2.00	-2.00	0.00
3,000.00	7.54	26.86	2,949.61	444.84	225.26	498.62	2.00	-2.00	0.00
3,100.00	5.54	26.86	3,048.96	454.99	230.41	510.01	2.00	-2.00	0.00
3,200.00	3.54	26.86	3,148.64	462.05	233.98	517.92	2.00	-2.00	0.00
3,300.00	1.54	26.86	3,248.53	466.00	235.98	522.34	2.00	-2.00	0.00
3,376.82	0.00	0.00	3,325.34	466.92	236.44	523.37	2.00	-2.00	0.00
	6 hold at 3376.82								
3,400.00	0.00	0.00	3,348.52	466.92	236.44	523.37	0.00	0.00	0.00
3,500.00	0.00	0.00	3,448.52	466.92	236.44	523.37	0.00	0.00	0.00
3,600.00	0.00	0.00	3,548.52	466.92	236.44	523.37	0.00	0.00	0.00
3,700.00	0.00	0.00	3,648.52	466.92	236.44	523.37	0.00	0.00	0.00



# **SDI** Planning Report



Database: EDM5000-RobertS-Local
Company: US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

Site:MORGAN STATE 921-361Well:MORGAN STATE 921-3611BS

Wellbore: OH

Project:

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-3611BS GL 5035 & KB 4 @ 5039.00ft (ASSUMED) GL 5035 & KB 4 @ 5039.00ft (ASSUMED)

True

Design:	PLAN #1 PRE	LIMINARY							
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,800.00 3,900.00 4,000.00 4,100.00 4,200.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	3,748.52 3,848.52 3,948.52 4,048.52 4,148.52	466.92 466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
4,300.00 4,400.00 4,500.00 4,600.00 4,636.48	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	4,248.52 4,348.52 4,448.52 4,548.52 4,585.00	466.92 466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
WASATCH									
4,700.00 4,800.00 4,900.00 5,000.00 5,100.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	4,648.52 4,748.52 4,848.52 4,948.52 5,048.52	466.92 466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
5,200.00 5,300.00 5,400.00 5,500.00 5,600.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	5,148.52 5,248.52 5,348.52 5,448.52 5,548.52	466.92 466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
5,700.00 5,800.00 5,900.00 6,000.00 6,100.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	5,648.52 5,748.52 5,848.52 5,948.52 6,048.52	466.92 466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
6,200.00 6,300.00 6,400.00 6,500.00 6,600.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	6,148.52 6,248.52 6,348.52 6,448.52 6,548.52	466.92 466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
6,700.00 6,800.00 6,900.00 7,000.00 7,100.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	6,648.52 6,748.52 6,848.52 6,948.52 7,048.52	466.92 466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
7,200.00 7,296.48	0.00 0.00	0.00 0.00	7,148.52 7,245.00	466.92 466.92	236.44 236.44	523.37 523.37	0.00 0.00	0.00 0.00	0.00 0.00
7,300.00 7,400.00	0.00 0.00	0.00	7,248.52 7,348.52	466.92	236.44	523.37	0.00	0.00	0.00
7,400.00	0.00	0.00 0.00	7,346.52 7,448.52	466.92 466.92	236.44 236.44	523.37 523.37	0.00 0.00	0.00 0.00	0.00 0.00
7,600.00 7,700.00 7,800.00 7,900.00 8,000.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	7,548.52 7,648.52 7,748.52 7,848.52 7,948.52	466.92 466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
8,100.00 8,200.00 8,300.00 8,400.00 8,500.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	8,048.52 8,148.52 8,248.52 8,348.52 8,448.52	466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
8,600.00 8,700.00	0.00 0.00	0.00 0.00	8,548.52 8,648.52	466.92 466.92	236.44 236.44	523.37 523.37	0.00 0.00	0.00 0.00	0.00 0.00



# SDI Planning Report



Database: Company: Project:

EDM5000-RobertS-Local

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

MORGAN STATE 921-36I Site: Well: MORGAN STATE 921-36I1BS

Wellbore:

Design:

PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36I1BS

GL 5035 & KB 4 @ 5039.00ft (ASSUMED) GL 5035 & KB 4 @ 5039.00ft (ASSUMED)

True

anned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.00 8,900.00 9,000.00	0.00 0.00 0.00	0.00 0.00 0.00	8,748.52 8,848.52 8,948.52	466.92 466.92 466.92	236.44 236.44 236.44	523.37 523.37 523.37	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
9,100.00 9,200.00 9,300.00 9,400.00 9,461.48	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	9,048.52 9,148.52 9,248.52 9,348.52 9,410.00	466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
SEGO									
9,500.00 9,528.48	0.00 0.00	0.00 0.00	9,448.52 9,477.00	466.92 466.92	236.44 236.44	523.37 523.37	0.00 0.00	0.00 0.00	0.00 0.00
CASTLEGAT	E								
9,600.00 9,700.00 9,800.00	0.00 0.00 0.00	0.00 0.00 0.00	9,548.52 9,648.52 9,748.52	466.92 466.92 466.92	236.44 236.44 236.44	523.37 523.37 523.37	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
9,900.00 9,961.48	0.00 0.00	0.00 0.00	9,848.52 9,910.00	466.92 466.92	236.44 236.44	523.37 523.37	0.00 0.00	0.00 0.00	0.00 0.00
BLACKHAW	K - BLACKHAW	K_MORGAN ST	ATE 921-3611B						
10,000.00 10,100.00 10,200.00	0.00 0.00 0.00	0.00 0.00 0.00	9,948.52 10,048.52 10,148.52	466.92 466.92 466.92	236.44 236.44 236.44	523.37 523.37 523.37	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
10,300.00 10,400.00 10,500.00 10,561.48	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	10,248.52 10,348.52 10,448.52 10,510.00	466.92 466.92 466.92 466.92	236.44 236.44 236.44 236.44	523.37 523.37 523.37 523.37	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
	AN STATE 921-		2,2 : 2:20				2.20		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BLACKHAWK_MORGAI - plan hits target cent - Circle (radius 25.00		0.00	9,910.00	466.92	236.44	14,526,848.48	2,062,874.82	39° 59' 32.615 N	109° 29' 30.239 W
PBHL_MORGAN STATE - plan hits target cent - Circle (radius 100.0		0.00	10,510.00	466.92	236.44	14,526,848.48	2,062,874.82	39° 59' 32.615 N	109° 29' 30.239 W

Casing Points						
	Measured	Vertical			Casing	Hole
	Depth (ft)	Depth (ft)		Name	Diameter (in)	Diameter (in)
	2,624.64	2,581.00	8 5/8"		8.625	11.000

API Well Number: 43047522900000



# **SDI**Planning Report



Database: Company: Project: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

Site: MORGAN STATE 921-36I
Well: MORGAN STATE 921-36I1BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36I1BS

GL 5035 & KB 4 @ 5039.00ft (ASSUMED) GL 5035 & KB 4 @ 5039.00ft (ASSUMED)

True

nations								
	Measured Depth (ft)	Vertical Depth (ft)		Name	Lithology	Dip (°)	Dip Direction (°)	
	1,347.56	1,333.00	GREENRIVER					
	1,676.04	1,654.00	BIRDSNEST					
	2,164.15	2,131.00	MAHOGANY					
	4,636.48	4,585.00	WASATCH					
	7,296.48	7,245.00	MESAVERDE					
	9,461.48	9,410.00	SEGO					
	9,528.48	9,477.00	CASTLEGATE					
	9,961.48	9,910.00	BLACKHAWK					

Plan Annotations						
Measured	Vertical Local Coordinates		dinates			
Depth	Depth	+N/-S	+E/-W			
(ft)	(ft)	(ft)	(ft)	Comment		
300.00	300.00	0.00	0.00	Start Build 2.00		
912.50	907.84	58.19	29.47	Start 1851.82 hold at 912.50 MD		
2,764.32	2,717.50	408.72	206.98	Start Drop -2.00		
3,376.82	3,325.34	466.92	236.44	Start 7184.66 hold at 3376.82 MD		
10,561.48	10,510.00	466.92	236.44	TD at 10561.48		

Surface Use Plan of Operations

Morgan State 921-36H4BS/ 921-36H4CS/ 921-36I1BS/ 921-36I1CS

	1	of	9	

MC	DRGAN STATE 921-36H	4BS					
Surface:	2108 FSL / 745 FEL	NESE	Lot				
BHL:	2071 FNL / 493 FEL	SENE	Lot				
MC	DRGAN STATE 921-36H	4CS					
Surface:	2102 FSL / 737 FEL	NESE	Lot				
BHL:	2402 FNL / 493 FEL	SENE	Lot				
М	ORGAN STATE 921-361	IBS					
Surface:	2096 FSL / 729 FEL	NESE	Lot				
BHL:	2568 FSL / 493 FEL	NESE	Lot				
MORGAN STATE 921-36I1CS							
Surface:	2090 FSL / 722 FEL	NESE	Lot				
BHL:	2237 FSL / 493 FEL	NESE	Lot				

Pad: MORGAN STATE 921-36I PAD

Section 36 T9S R21E Mineral Lease: ML-22265

Uintah County, Utah

Operator: Kerr-McGee Oil & Gas Onshore LP

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including but not limited to, APDs/SULAs/ROEs/ROWs and/or easements.)

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

### A. **Existing Roads**:

Existing roads consist of county and improved/unimproved lease roads. KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

### B. Planned Access Roads:

Approximately  $\pm 215$ ' (0.04 miles) of proposed road re-route is proposed (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

If there are roads that are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

During the onsite, turnouts, major cut and fills, culverts, bridges, gates, cattle guards, low water crossings, or modifications needed to existing infrastructure/facilities were determined, as applicable, are typically shown on attached Exhibits and Topo maps.

# C. <u>Location of Existing and Proposed Facilities</u>:

This pad will expand the existing pad for the Morgan State 12-36. The Morgan State 12-36 well location is a plugged and abandoned well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of December 5, 2011.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of the well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) above ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

### **Gathering Facilities:**

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 1,650$ ' and the individual segments are broken up as follows:

 $\pm 355'$  (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

 $\pm 1,295'$  (0.2 miles) –New 6" buried gas pipeline from the edge of pad to the 921-36J intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 1,650$ ' and the individual segments are broken up as follows:

±355' (0.1 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

 $\pm 1,295'$  (0.2 miles) –New 6" buried liquid pipeline from the edge of pad to the 921-36J intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. KMG requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, KMG requests a temporary 45' construction right-of-way 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity and ownership, as well as to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

# D. Location and Type of Water Supply:

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

### E. Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

# F. Methods for Handling Waste Materials:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

Ouray #1 SWD in Sec. 1 T9S R21E NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 33 T9S R21E NBU 921-34L SWD in Sec. 34 T9S R21E

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

Unless otherwise approved, no oil or other oil based drill additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water, biodegradable polymer soap, bentonite clay, and /or non-toxic additives will be used in the system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions, or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum

trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be release into the pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternative is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as the hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods. (e.g. solidification)

Any additional pits necessary for subsequent operations, such as temporary flare pits, or workover pits, will contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of the work.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, including accidental release of fluids, or release in excess of reportable quantities, will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule. Where State wells are participatory to a Federal agreement, according to NTL-3A, the appropriate Federal agencies will be notified.

# **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

#### G. Ancillary Facilities:

None are anticipated.

#### H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/ egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1927 (NAD27) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

#### I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

#### **Interim Reclamation**

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/

completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

#### **Final Reclamation**

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

#### Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

#### J. Surface/Mineral Ownership:

SITLA 675 East 500 South, Suite 500 Salt Lake City, UT 84102

Morgan State 921-36H4BS/ 921-36H4CS/ 921-36I1BS/ 921-36I1CS

Surface Use Plan of Operations 8 of 9

L. Other Information:

None

Surface Use Plan of Operations 9 of 9

Morgan State 921-36H4BS/ 921-36H4CS/ 921-36I1BS/ 921-36I1CS

#### M. Lessee's or Operators' Representative & Certification:

Danielle Piernot Regulatory Analyst II Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6156 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Danielle Piernot

December 19, 2011

Date



Kerr-McGee Oil & Gas Onshore LP PO Box 173779 DENVER, CO 80217-3779

December 14, 2011

Ms. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11 Morgan State 921-36I1BS

T9S-R21E

Section 36: NESE (Surface), NESE (Bottom Hole)

Surface: 2096' FSL, 729' FEL Bottom Hole: 2568' FSL, 493' FEL

Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

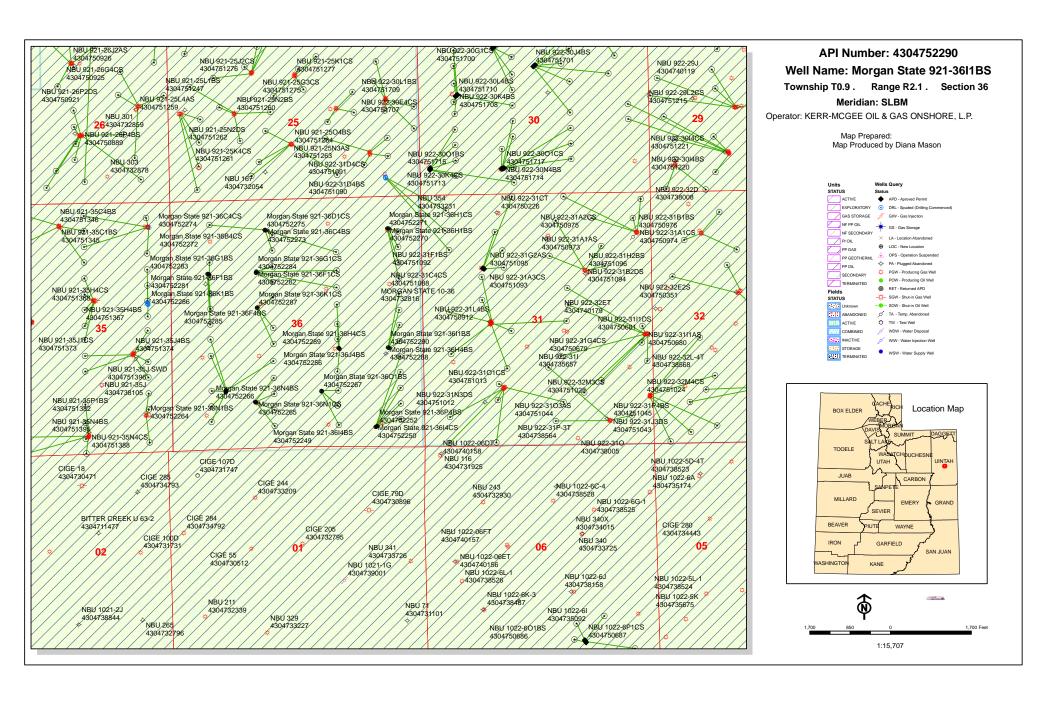
Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney Sr. Staff Landman

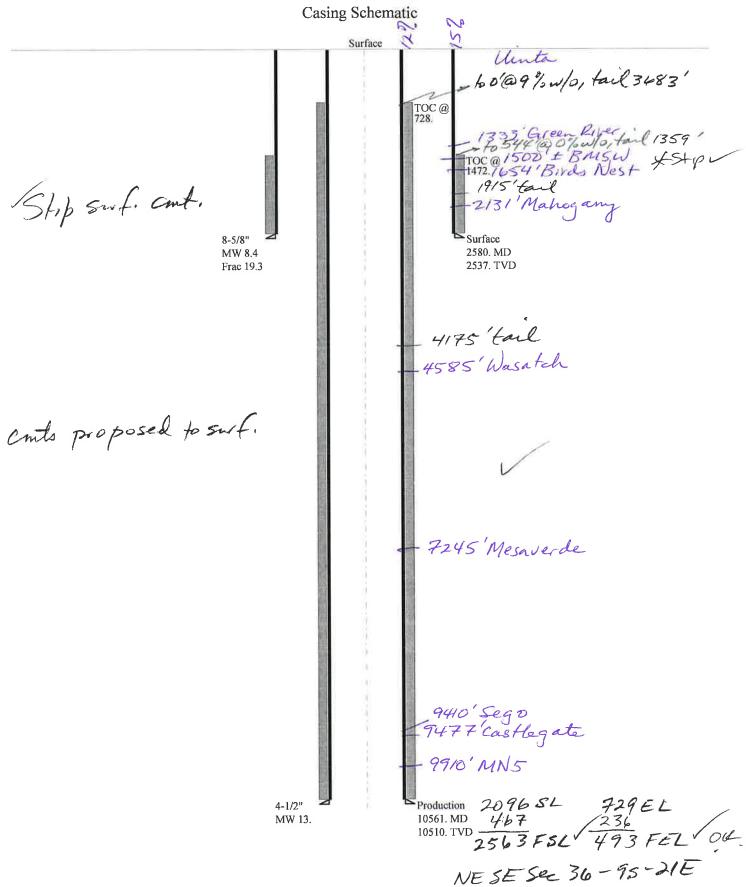
RECEIVED: December 19, 2011



#### BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. Morgan State 921-3611BS 43047522900000

Well Name		KERR-MCGEE C	IL & GAS ONSHO	RE, L.P. Morgan	State 921	I-36I1BS	4	
String		Surf	Prod				ī	
Casing Size(")		8.625	4.500				ī	
Setting Depth (TVD)		2537	10510				ī	
Previous Shoe Setting Dept	h (TVD)	0	2537				ī	
Max Mud Weight (ppg)		8.4	13.0				ī	
BOPE Proposed (psi)		500	5000					
Casing Internal Yield (psi)		3390	10690					
Operators Max Anticipated	Pressure (psi)	6937	12.7					
Calculations		Surf Stri	nø			8.625	"	
Max BHP (psi)			52*Setting D	epth*MW=	1108	1020		
· ·					11100		BOPE Ade	quate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ng Depth)=	804	一	NO	air drill
MASP (Gas/Mud) (psi)		Max BH	P-(0.22*Setti	ng Depth)=	550		NO I	Reasonable depth in area
							*Can Full	Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(S	etting Depth -	- Previous Sh	oe Depth)=	550		NO	
Required Casing/BOPE Tes	st Pressure=				2373		psi	
*Max Pressure Allowed @ 1	Previous Casing S	Shoe=			0		psi *Ass	umes lpsi/ft frac gradient
		<b>D</b> 16.				4 500		
Calculations May PHP (pgi)		Prod Stri	ing 52*Setting D	anth*MW-		4.500	<u>"</u>	
Max BHP (psi)		.0	52 Setting L	eptii · M w =	7105		ROPE Ade	quate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ng Depth)=	5844	_	NO I	quarter for Drining from Setting Cusing at Beptin.
MASP (Gas/Mud) (psi)			P-(0.22*Setti		4793		YES	OK
( , , ,				3 11 7	4793		·——	Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(S	etting Depth	- Previous Sh	oe Depth)=	5351	_	NO I	Reasonable
Required Casing/BOPE Tes	st Pressure=				5000		psi	
*Max Pressure Allowed @ 1	Previous Casing S	Shoe=			2537		psi *Ass	umes 1psi/ft frac gradient
Calculations		String					"	
Max BHP (psi)			52*Setting D	enth*MW=				
( <b>F</b> )				-P	l.		BOPE Ade	quate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ng Depth)=		_	NO	
MASP (Gas/Mud) (psi)		Max BH	P-(0.22*Setti	ng Depth)=	,		NO I	
							*Can Full	Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(S	etting Depth -	Previous Sh	oe Depth)=			NO	
Required Casing/BOPE Tes	st Pressure=						psi	
*Max Pressure Allowed @ 1	Previous Casing S	Shoe=					psi *Ass	umes 1psi/ft frac gradient
Calculations		String					"	
Max BHP (psi)		.0	52*Setting D	epth*MW=		一		
							BOPE Ade	quate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ng Depth)=			NO	
MASP (Gas/Mud) (psi)		Max BH	P-(0.22*Setti	ng Depth)=			NO	
							*Can Full	Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(S	etting Depth	Previous Sh	oe Depth)=			NO	
Required Casing/BOPE Tes	st Pressure=						psi	
*Max Pressure Allowed @ 1	Previous Casing	Shoe=					psi *Ass	umes 1psi/ft frac gradient

## 43047522900000 Morgan State 921-36I1BS



Well name:

43047522900000 Morgan State 921-36I1BS

Operator:

KERR-MCGEE OIL & GAS ONSHORE, L.P.

String type:

Surface

Project ID:

43-047-52290

Location:

**UINTAH** 

COUNTY

Minimum design factors: **Environment:** 

1.80 (J)

1.70 (J)

1.60 (J)

1.50 (J)

1.50 (B)

Collapse

Mud weight:

Design parameters:

8.400 ppg Design is based on evacuated pipe.

Collapse: Design factor

1.125

H2S considered?

Temperature gradient: Minimum section length:

No 74 °F Surface temperature: Bottom hole temperature:

110 °F 1.40 °F/100ft 100 ft

Design factor

1.00 Cement top: 1,472 ft

**Burst** 

Max anticipated surface

pressure: 2,236 psi 0.120 psi/ft Internal gradient: Calculated BHP

No backup mud specified.

**Tension:** 

Burst:

2,540 psi 8 Round STC: 8 Round LTC:

> Buttress: Premium:

Body yield:

Tension is based on air weight. Neutral point: 2,258 ft Directional Info - Build & Drop

Kick-off point 300 ft Departure at shoe: 419 ft 2 °/100ft Maximum dogleg:

12.25° Inclination at shoe:

Re subsequent strings:

Next setting depth: Next mud weight:

13.000 ppg Next setting BHP: 7,097 psi Fracture mud wt: 19.250 ppg

Fracture depth: Injection pressure: 2,540 ft 2,540 psi

10,510 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2580	8.625	28.00	I-55	LT&C	2537	2580	7.892	102168
Run	Collapse	Collapse	Collapse	Burst	Burst	Burst	Tension	Tension	Tension
Seq	Load (psi)	Strength (psi)	Design Factor	Load (psi)	Strength (psi)	Design Factor	Load (kips)	Strength (kips)	Design Factor
1	1107	1880	1.698	2540	3390	1.33	71	348	4.90 J

Prepared

by:

Helen Sadik-Macdonald Div of Oil, Gas & Mining

Phone: 801 538-5357 FAX: 801-359-3940

Date: March 6,2012 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2537 ft, a mud weight of 8.4 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

43047522900000 Morgan State 921-36I1BS Well name:

KERR-MCGEE OIL & GAS ONSHORE, L.P. Operator:

Production

Project ID: String type: 43-047-52290

UINTAH COUNTY Location:

No backup mud specified.

Minimum design factors: **Environment:** Design parameters: H2S considered? Collapse Collapse: Nο 74 °F Design factor 1.125 Surface temperature: Mud weight: 13.000 ppg 221 °F Bottom hole temperature: Design is based on evacuated pipe. Temperature gradient: 1.40 °F/100ft Minimum section length: 100 ft Burst: 728 ft Design factor 1.00 Cement top: **Burst** Max anticipated surface pressure: 4,785 psi Directional Info - Build & Drop Internal gradient: 0.220 psi/ft Tension: Calculated BHP 7,097 psi 8 Round STC: 1.80 (J) Kick-off point 300 ft

> 1.60 (J) Buttress: Premium: 1.50 (J) 1.60 (B) Body yield:

8 Round LTC:

Tension is based on air weight. Neutral point: 8,519 ft

1.80 (J)

Estimated cost: 158,793 (\$)

Run	Segment		Nominal		End	True Vert	Measured	Drift	Est.
Seq	Length (ft)	Size (in)	Weight (lbs/ft)	Grade	Finish	Depth (ft)	Depth (ft)	Diameter (in)	Cost (\$)
2	5000	4.5	11.60	HCP-110	DQX	4949	5000	3.875	132000
1	5561	4.5	11.60	HCP-110	LT&C	10510	10561	3.875	26793
Run	Collapse	Collapse	Collapse	Burst	Burst	Burst	Tension	Tension	Tension
Seq	Load	Strength	Design	Load	Strength	Design	Load	Strength	Design
	(psi)	(psi)	Factor	(psi)	(psi)	Factor	(kips)	(kips)	Factor
2	3342	8130	2.433	5874	10690	1.82	121.9	367.2	3.01 B
1	7097	8650	1 219	7097	10690	1.51	64.5	279	4.33 J

Prepared Helen Sadik-Macdonald Div of Oil, Gas & Mining by:

Phone: 801 538-5357 FAX: 801-359-3940

Date: March 6,2012 Salt Lake City, Utah

Departure at shoe:

Maximum dogleg:

Inclination at shoe:

523 ft

0°

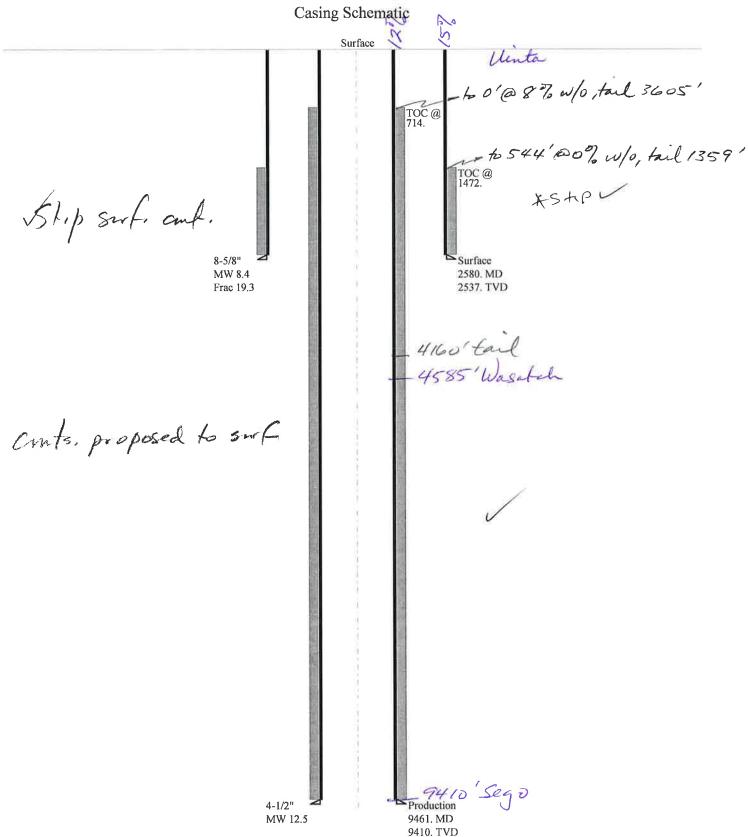
2 °/100ft

Collapse is based on a vertical depth of 10510 ft, a mud weight of 13 ppg. The casing is considered to be evacuated for collapse purposes, Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

## 43047522900000 Morgan State 921-36I1BS



43047522900000 Morgan State 921-36I1BS Well name:

KERR-MCGEE OIL & GAS ONSHORE, L.P. Operator:

Surface String type:

Project ID: 43-047-52290

Fracture depth:

Injection pressure:

2,540 ft 2,540 psi

UINTAH COUNTY Location:

Design parameters: Collapse		Minimum design fa	ctors:	Environment: H2S considered?	No
Mud weight:	8.400 ppg	Design factor	1.125	Surface temperature:	74 °F
Design is based on evacua	ated pipe.	v		Bottom hole temperature	: 110 °F
				Temperature gradient:	1.40 °F/100ft
				Minimum section length:	100 ft
		Burst:			
		Design factor	1.00	Cement top:	1,472 ft
Burst					
Max anticipated surface					
pressure:	2,236 psi				
Internal gradient:	0.120 psi/ft	<u>Tension:</u>		Directional Info - Build	•
Calculated BHP	2,540 psi	8 Round STC:	1.80 (J)	Kick-off point	300 ft
		8 Round LTC:	1.70 (J)	Departure at shoe:	419 ft
No backup mud specified.		Buttress:	1.60 (J)	Maximum dogleg:	2 °/100ft
		Premium:	1.50 (J)	Inclination at shoe:	12.25 °
		Body yield:	1.50 (B)	Re subsequent strings:	
				Next setting depth:	9,410 ft
		Tension is based on a	ir weight.	Next mud weight:	12.500 ppg
		Neutral point:	2,258 ft	Next setting BHP:	6,110 psi
				Fracture mud wt:	19.250 ppg

Run Seq	Segment Length	Size	Nominal Weight	Grade	End Finish	True Vert Depth	Measured Depth	Drift Diameter	Est. Cost
•	(ft)	(in)	(lbs/ft)			(ft)	(ft)	(in)	(\$)
1	2580	8.625	28.00	I-55	LT&C	2537	2580	7.892	102168
Run	Collapse	Collapse	Collapse	Burst	Burst	Burst	Tension	Tension	Tension
Seq	Load	Strength	Design	Load	Strength	Design	Load	Strength	Design
•	(psi)	(psi)	Factor	(psi)	(psi)	Factor	(kips)	(kips)	Factor
1	1107	1880	1.698	2540	3390	1.33	71	`348	4.90 J

Prepared Helen Sadik-Macdonald Div of Oil, Gas & Mining

Phone: 801 538-5357 FAX: 801-359-3940

Date: March 6,2012 Salt Lake City, Utah

Collapse is based on a vertical depth of 2537 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

43047522900000 Morgan State 921-36I1BS Well name:

KERR-MCGEE OIL & GAS ONSHORE, L.P. Operator:

Production String type:

Project ID: 43-047-52290

**UINTAH** COUNTY Location:

Minimum design factors: **Environment:** Design parameters: Collapse: H2S considered? No Collapse 74 °F Design factor Surface temperature: Mud weight: 12.500 ppg 1.125 206 °F Bottom hole temperature: Internal fluid density: 1.000 ppg 1.40 °F/100ft Temperature gradient: Minimum section length: 100 ft Burst: 1.00 714 ft Cement top: Design factor **Burst** Max anticipated surface pressure: 4,040 psi Internal gradient: 0.220 psi/ft Directional Info - Build & Drop **Tension:** Kick-off point 300 ft Calculated BHP 6,110 psi 8 Round STC: 1.80 (J) Departure at shoe: 523 ft 8 Round LTC: 1.80 (J) Buttress: 1.60 (J) Maximum dogleg: 2 °/100ft No backup mud specified, 1.50 (J) 0° Inclination at shoe: Premium: 1.60 (B) Body yield:

Tension is based on air weight. Neutral point: 7,703 ft

Estimated cost:

190,885 (\$)

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
2	5000	4.5	11.60	1-80	DQX	4949	5000	3.875	132000
1	4461	4.5	11.60	1-80	LT&C	9410	9461	3.875	58885
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
2	2956	5918	2.002	5129	7780	1.52	109.2	267	2.45 J

Helen Sadik-Macdonald Prepared Div of Oil, Gas & Mining by:

Phone: 801 538-5357 FAX: 801-359-3940

Date: March 6,2012 Salt Lake City, Utah

Collapse is based on a vertical depth of 9410 ft, a mud weight of 12.5 ppg. An internal gradient of .052 psi/ft was used for collapse from TD Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

From: Jim Davis

To: APD APPROVAL

**CC:** Danielle Piernot; Julie Jacobson

**Date:** 4/2/2012 1:51 PM

**Subject:** Morgan State 921-36A Morgan State 921-36I pad wells

The following wells have been approved by SITLA including arch and paleo clearance.

Morgan State 921-36A4BS (4304752268) Morgan State 921-36A4CS (4304752269) Morgan State 921-36H1BS (4304752270) Morgan State 921-36H1CS (4304752271) Morgan State 921-36I1CS (4304752251) Morgan State 921-36H4BS (4304752288) Morgan State 921-36I1BS (4304752289) Morgan State 921-36I1BS (4304752290)

Thanks.

-Jim

Jim Davis Utah Trust Lands Administration jimdavis1@utah.gov Phone: (801) 538-5156

## ON-SITE PREDRILL EVALUATION Utah Division of Oil Cos and Mining

Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.

Well Name Morgan State 921-36I1BS

API Number 43047522900000 APD No 5078 Field/Unit NATURAL BUTTES

Location: 1/4,1/4 NESE Sec 36 Tw 9.0S Rng 21.0E 2096 FSL 729 FEL

GPS Coord (UTM) 628632 4427855 Surface Owner

#### **Participants**

Sheila Wopsock, Charles Chase, Danielle Piernot, Doyle Holmes, (Anadarko). John Slaugh, Mitch Batty, (Timberline). Jim Davis (SITLA). Alex Hansen (DWR). Chris Jensen and David Hackford, (DOGM).

#### Regional/Local Setting & Topography

This site is on an existing location, and very little new construction will be necessary.

This location is within the Natural Buttes Unit but this section is not part of the Natural Buttes Unit. It is approximately 14 road miles southeast of Ouray, Utah. The general area is at the head of a long unnamed wash east of Cottonwood Wash. Both washes enter the White River in the same general area, approximately six miles to the north. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws that drain northerly. This unnamed wash is an ephemeral drainage. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. The washes are sometimes rimmed with steep side hills, which have exposed sandstone bedrock cliffs along the rims.

Four new directional wells will be drilled from this location which currently has one well, the Morgan State 12-36. This well has been PA'd.

#### Surface Use Plan

**Current Surface Use** 

Grazing Wildlfe Habitat Existing Well Pad

New Road Miles Well Pad Src Const Material Surface Formation

0.04 Width 354 Length 455 Onsite UNTA

Ancillary Facilities N

Waste Management Plan Adequate? Y

#### **Environmental Parameters**

Affected Floodplains and/or Wetlands N

Flora / Fauna

Prickly pear, wild onion, shadscale, mat saltbrush, Indian ricegrass, halogeton, pepper grass. Principal species present are cheatgrass, black sagebrush, stipa, mesquite grass.

Sheep, antelope, coyote, raptors, small mammals and birds.

#### Soil Type and Characteristics

Rocky sandy clay loam.

#### **Erosion Issues** Y

Erosion could be a problem if diversion ditches aren't maintained.

#### **Sedimentation Issues** N

Site Stability Issues N

#### Drainage Diverson Required? Y

Around west side of location.

#### Berm Required? N

**Erosion Sedimentation Control Required?** N

Paleo Survey Run? Y Paleo Potental Observed? N Cultural Survey Run? Y Cultural Resources? N

#### Reserve Pit

Site-Specific Factors	Site Ran	king	
Distance to Groundwater (feet)	> 200	0	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)		20	
Native Soil Type	Mod permeability	10	
Fluid Type	Fresh Water	5	
Drill Cuttings	Normal Rock	0	
<b>Annual Precipitation (inches)</b>		0	
Affected Populations			
Presence Nearby Utility Conduits	Not Present	0	
	Final Score	35	1 Sensitivity Level

#### Characteristics / Requirements

The reserve pit is planned in an area of cut on the south corner of the location. Dimensions are 260' x 100' x 12' deep with two feet of freeboard. Kerr McGee has agreed to line this pit with a 30 mil synthetic liner and a layer of felt sub-liner.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 30 Pit Underlayment Required? Y

#### Other Observations / Comments

David Hackford **Evaluator** 

1/11/2012

Date / Time

# Application for Permit to Drill Statement of Basis

4/10/2012

# Utah Division of Oil, Gas and Mining

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
5078	43047522900000	SITLA	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSH	IORE, L.P.	Surface Owner-APD		
Well Name	Morgan State 921-36I1BS		Unit		
Field	NATURAL BUTTES		Type of Work	DRILL	
Location	NESE 36 9S 21E S 209	6 FSL 729	FEL GPS Coord		
Location	(UTM) 628646E 4427853N				

#### **Geologic Statement of Basis**

Kerr McGee proposes to set 2,580' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 1,500'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 36. The well is listed as 2,640 feet deep and used for drilling water. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement should adequately protect. Any usable ground water.

Brad Hill **APD Evaluator** 

2/8/2012 **Date / Time** 

#### **Surface Statement of Basis**

The general area is in the central portion of the Natural Buttes Unit. Within this area is the White River and rugged drainages that drain into it. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River is six miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 43.6 miles to the northwest. Access from Vernal is by following Utah State, Uintah County and oilfield development roads.

Four wells will be directionally drilled from this location. They are the Morgan State 921-36I1CS, Morgan State 921-36I1BS, Morgan State 921-36H4CS and the Morgan State 921-36H4BS. The existing location currently has one well. This well is the Morgan State 12-36, and this well has been PA'd. A drainage ditch will be necessary around the west side of the location. The pad as modified should be stable and sufficient for five wells, and is the best site for a location in the immediate area.

New construction will consist of approximately 100 feet on the south, 100 feet on the west, 75 feet on the north, and 75 feet on the east side of the existing location.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA and Alex Hansen with DWR were invited by email to the pre-site evaluation. Both were present. Kerr McGee personnel were told to consult with SITLA for reclamation standards including seeding mixes to be used.

David Hackford 1/11/2012
Onsite Evaluator Date / Time

#### Conditions of Approval / Application for Permit to Drill

Category Condition

Pits A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be properly installed

and maintained in the reserve pit.

Pits The reserve pit should be located on the south side of the location.

Surface Drainages adjacent to the proposed pad shall be diverted around the location.

#### **WORKSHEET** APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 12/19/2011 API NO. ASSIGNED: 43047522900000

WELL NAME: Morgan State 921-36I1BS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) PHONE NUMBER: 720 929-6156

**CONTACT:** Danielle Piernot

PROPOSED LOCATION: NESE 36 090S 210E Permit Tech Review:

> SURFACE: 2096 FSL 0729 FEL **Engineering Review:**

> BOTTOM: 2568 FSL 0493 FEL Geology Review:

**COUNTY: UINTAH** 

**LATITUDE**: 39.99107 LONGITUDE: -109.49312 **UTM SURF EASTINGS: 628646.00** NORTHINGS: 4427853.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: ML 22265 PROPOSED PRODUCING FORMATION(S): BLACKHAWK

SURFACE OWNER: 3 - State **COALBED METHANE: NO** 

**RECEIVED AND/OR REVIEWED: LOCATION AND SITING:** 

✓ PLAT R649-2-3.

Bond: STATE/FEE - 22013542 Unit:

**Potash** R649-3-2. General

Oil Shale 190-5

Oil Shale 190-3 R649-3-3. Exception

**Drilling Unit** Oil Shale 190-13

Board Cause No: Cause 173-24 Water Permit: 43-8496

Effective Date: 10/5/2009 **RDCC Review:** 

Siting: 460' Fr Exterior Lease Boundary Fee Surface Agreement

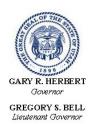
✓ Intent to Commingle R649-3-11. Directional Drill

**Commingling Approved** 

Comments: Presite Completed

Stipulations:

3 - Commingling - ddoucet 5 - Statement of Basis - bhill 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason 25 - Surface Casing - hmacdonald



## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

#### Permit To Drill

\*\*\*\*\*\*

Well Name: Morgan State 921-36I1BS

**API Well Number:** 43047522900000

Lease Number: ML 22265 Surface Owner: STATE Approval Date: 4/10/2012

#### **Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

#### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-24. The expected producing formation or pool is the BLACKHAWK Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### **Commingle:**

In accordance with Board Cause No. 173-24, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### Conditions of Approval:

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Surface casing shall be cemented to the surface.

#### **Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan contact Dustin Doucet
- Significant plug back of the well contact Dustin Doucet
- Plug and abandonment of the well contact Dustin Doucet

#### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well - contact Carol Daniels OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to cementing or testing casing contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program
  - contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well contact Dan Jarvis

#### **Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 office
- Dustin Doucet 801-538-5281 office

801-733-0983 - after office hours

• Dan Jarvis 801-538-5338 - office

801-231-8956 - after office hours

#### Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
  - Requests to Change Plans (Form 9) due prior to implementation
  - Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
  - Report of Water Encountered (Form 7) due within 30 days after completion
  - Well Completion Report (Form 8) due within 30 days after completion or

Approved By:

For John Rogers Associate Director, Oil & Gas

SUBMIT AS EMAIL

**Print Form** 

## BLM - Vernal Field Office - Notification Form

Ope	ator KERR-McGEE OIL & GA	<u>\S</u> Rig Nam	e/# <u>BUC</u>	KET RIG
Subr	nitted By <u>J. Scharnowske</u>	Phone Nui	mber <u>720</u>	.929.6029
Well	Name/Number MORGAN ST	TATE 921-36	1BS	
Qtr/0	Qtr <u>NESE</u> Section 36	Township <u>s</u>	<u>9S</u> F	Range <u>21E</u>
Leas	e Serial Number ML 22265			
API	Number <u>4304752290</u>			······································
Spur	<u> 1 Notice</u> – Spud is the initia	l snuddina d	of the we	ell not drilling
-	pelow a casing string.	i spadaling (	or the we	in, not arming
	Date/Time <u>07/26/2012</u>	11:00 HRS	AM 🗌	РМ
<u>Casi</u> time	<u>ng</u> – Please report time cas s.	ing run star	ts, not c	ementing
$\checkmark$	Surface Casing			
	Intermediate Casing			
	Production Casing			•
	Liner			
Ш	Other			
	Date/Time <u>08/05/2012</u>	08:00 HRS	AM 🗌	PM 🗌
ВОР	F			RECEIVED
	= Initial BOPE test at surface	e casing poi	nt	JUL 2 5 2012
П	BOPE test at intermediate			
	30 day BOPE test	<b>.</b>		DIV. OF OIL, GAS & MINING
	Other			
	Date/Time		AM 🗌	РМ
Rem	arks ESTIMATED DATE AND TIME. PLEA	ASE CONTACT KENI	NY GATHINGS	AT
435.82	8.0986 OR LOVEL YOUNG AT 435.781.70	51		

Sundry Number: 28295 API Well Number: 43047522900000

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	Y NOTICES AND REPORTS (	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly dreenter plugged wells, or to drill horizon for such proposals.		7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: Morgan State 921-36I1BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		<b>9. API NUMBER:</b> 43047522900000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NIATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2096 FSL 0729 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	<b>IIP, RANGE, MERIDIAN:</b> 6 Township: 09.0S Range: 21.0E Meridia	an: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
✓ SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud: 7/26/2012	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
MIRU TRIPLE A BU RAN 14" 36.7# SC	COMPLETED OPERATIONS. Clearly show a CKET RIG. DRILLED 20" CONI HEDULE 10 CONDUCTOR PIF . SPUD WELL LOCATION ON A HRS.	DUCTOR HOLE TO 40'. PE. CEMENT WITH 28	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY August 07, 2012
NAME (PLEASE PRINT) Jaime Scharnowske	<b>PHONE NUMBE</b> 720 929-6304	R TITLE Regulartory Analyst	
SIGNATURE N/A		<b>DATE</b> 8/2/2012	

#### STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

#### **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

P.O. Box 173779

city DENVER

zip 80217 state CO

Phone Number: \_\_(720) 929-6304

Well 1

API Number	Well	Well Name		Sec	Twp	Rng	County
4304752251	Morgan St	te 921-36I1CS NESE 36 9S		21E	UINTAH		
Action Code	Current Entity Number	New Entity Number	S	Spud Date		Entity Assignment Effective Date	
F	99999	18670	7	7/26/2012		81	2012012

Comments: MIRU TRIPLE A BUCKET RIG.

MYRD

SPUD WELL LOCATION ON 7/26/2012 AT 09:30 HRS. BHL: Mese

Well 2

API Number	Well	Name	QQ	Sec	Twp	Rng	County
4304752290	Morgan State 9	921-36I1BS	NESE	NESE 36 9S		21E	UINTAH
Action Code	Current Entity Number	New Entity Number	S	pud Da	te		ity Assignment iffective Date
A	99999	18671	7	7/26/2012		81	20 12012
Comments: MIDI	LITPIDIE A PLICKET E		-	MVR	D		

MIRU TRIPLE A BUCKET RIG.

SPUD WELL LOCATION ON 7/26/2012 AT 11:30 HRS. BHL: RESE

Well 3

API Number	Well	QQ	Sec	Twp	Rng	County		
4304752289	Morgan Stat	NESE	36	98	21E	UINTAH		
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date		
A	99999	18672	7	7/26/2012		81	30 12012	
Comments: MIRI	<u> </u>	NVR	<u>D</u>					

SPUD WELL LOCATION ON 7/26/2012 AT 13:00 HRS.

BHL: Sen

#### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a new entity D

  E Other (Explain in 'comments' section)

AUG 0 5 2012

#### JAIME SCHARNOWSKE

Name (Please Print)

Signature

**REGULATORY ANALYST** 

8/2/2012

Title

Date

Sundry Number: 30509 API Well Number: 43047522900000

	STATE OF UTAH		FORM 9
ı	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN	-	5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	RY NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	7.UNIT or CA AGREEMENT NAME:		
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: MORGAN STATE 921-3611BS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047522900000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 73779 720 929-	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2096 FSL 0729 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 3	ian: S	STATE: UTAH	
11. CHECI	K APPROPRIATE BOXES TO INDICAT	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT     Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
10/3/2012	WILDCAT WELL DETERMINATION	OTHER	OTHER:
42 DESCRIBE BRODOSED OR			
	completed operations. Clearly show a he month of September 2012		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY October 03, 2012
NAME (PLEASE PRINT)	PHONE NUMB	ER   TITLE	
Lindsey Frazier	720 929-6857	Regulatory Analyst II	
SIGNATURE N/A		<b>DATE</b> 10/3/2012	

## State of Utah - Notification Form

By <u>BRAD PEDERSEN</u> Phone Nu	mber <u>435-828-</u>
0988/1544 Well Name/Number MORGAN STATE 921-3	<u>36I1BS</u>
Qtr/Qtr <u>NE/SE</u> Section <u>36</u> Township <u>9S</u> Ral Lease Serial Number 22265	nge 21E
API Number 4304752290	
Casing – Time casing run starts, not ceme	nting times.
Production Casing Other	
Date/Time <u>10/3/2012</u> <u>12:00</u> AN	M DM
BOPE Initial BOPE test at surface casing poi Other	int
Date/Time AM	PM RECEIVED
Rig Move Location To: MORGAN STATE 921-36H4CS	OCT 0 2 2012  DIV. OF OIL, GAS & MINING
Date/Time <u>10/3/2012</u> <u>18:00</u> AN	И ☐ PM ⊠
Remarks <u>TIME IS ESTIMATED</u>	

Sundry Number: 30822 API Well Number: 43047522900000

	STATE OF UTAH		FORM 9				
ı	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265				
SUNDR	RY NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:				
current bottom-hole depth, i	Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.						
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: MORGAN STATE 921-36I1BS						
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	9. API NUMBER: 43047522900000						
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 8021	<b>PHONE NUMBER:</b> 720 929-0	9. FIELD and POOL or WILDCAT: 5M&TURAL BUTTES				
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2096 FSL 0729 FEL			COUNTY: UINTAH				
QTR/QTR, SECTION, TOWNSH	<b>HIP, RANGE, MERIDIAN:</b> 6 Township: 09.0S Range: 21.0E Merid	lian: S	STATE: UTAH				
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOF	RT, OR OTHER DATA				
TYPE OF SUBMISSION		TYPE OF ACTION					
	ACIDIZE	ALTER CASING	CASING REPAIR				
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME				
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE				
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION				
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK				
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION				
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON				
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL				
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION				
10/4/2012	_		OTHER:				
	WILDCAT WELL DETERMINATION	UTHER	<u> </u>				
FINISHED DR PRODUCTION C DETAILS OF CASING	COMPLETED OPERATIONS. Clearly show RILLING TO 9,468' ON 10/02/2 CASING. RELEASED H&P 318 G AND CEMENT WILL BE INCI EPORT. WELL IS WAITING ON ACTIVITIES	2012. CEMENTED 3 RIG ON 10/04/2012. LUDED WITH THE WELL	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY October 16, 2012				
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUMB</b> 720 929-6857	BER TITLE Regulatory Analyst II					
SIGNATURE	120 323-0031	DATE					
N/A		10/8/2012					

Sundry Number: 32747 API Well Number: 43047522900000

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	3	5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDF	RY NOTICES AND REPORTS ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for procurrent bottom-hole depth, FOR PERMIT TO DRILL form	pen existing wells below laterals. Use APPLICATION	7.UNIT or CA AGREEMENT NAME:	
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: MORGAN STATE 921-36I1BS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	9. API NUMBER: 43047522900000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18t	PHC h Street, Suite 600, Denver, CO, 80217 377	ONE NUMBER: 79 720 929-6	9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2096 FSL 0729 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSI Qtr/Qtr: NESE Section: 3	HIP, RANGE, MERIDIAN: 6 Township: 09.0S Range: 21.0E Meridian: \$	S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICATE N	ATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	CHANGE TO PREVIOUS PLANS  CHANGE WELL STATUS  DEEPEN  OPERATOR CHANGE  PRODUCTION START OR RESUME  REPERFORATE CURRENT FORMATION  TUBING REPAIR  WATER SHUTOFF		CASING REPAIR  CHANGE WELL NAME  CONVERT WELL TYPE  NEW CONSTRUCTION  PLUG BACK  RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON  WATER DISPOSAL  APD EXTENSION  OTHER:  DEPTHS, VOLUMES, etc.  Accepted by the Utah Division of Oil, Gas and Mining  FOR RECORD ONLY  December 05, 2012
NAME (PLEASE PRINT)	PHONE NUMBER	TITLE	
Jaime Scharnowske SIGNATURE	720 929-6304	Regulartory Analyst  DATE	
N/A		12/3/2012	

Sundry Number: 33557 API Well Number: 43047522900000

	STATE OF UTAH			FORM 9
ı	DEPARTMENT OF NATURAL RESOUL DIVISION OF OIL, GAS, AND M			5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	Y NOTICES AND REPORTS	S ON V	VELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantl reenter plugged wells, or to drill horiz n for such proposals.			7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: MORGAN STATE 921-3611BS			
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	9. API NUMBER: 43047522900000			
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 802		IE NUMBER: 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2096 FSL 0729 FEL				COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	<b>HP, RANGE, MERIDIAN:</b> 6 Township: 09.0S Range: 21.0E Mer	ridian: S		STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDIC	ATE NA	TURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION			TYPE OF ACTION	
	ACIDIZE	☐ AL	TER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	Сн	IANGE TUBING	CHANGE WELL NAME
Approximate date work will start.	CHANGE WELL STATUS	□ co	MMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ FR	ACTURE TREAT	☐ NEW CONSTRUCTION
·	OPERATOR CHANGE	☐ PL	UG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME		CLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		DETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR		NT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT				
Report Date: 1/3/2013		□ SI	TA STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	от	HER	OTHER:
	COMPLETED OPERATIONS. Clearly sho			Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 07, 2013
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUN</b> 720 929-6857		TITLE Regulatory Analyst II	
SIGNATURE			DATE	
N/A		- 1	1/3/2013	

Sundry Number: 34388 API Well Number: 43047522900000

	STATE OF UTAH		FORM 9
1	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	RY NOTICES AND REPORTS (	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly or reenter plugged wells, or to drill horizon n for such proposals.		7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: MORGAN STATE 921-36I1BS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	9. API NUMBER: 43047522900000		
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2096 FSL 0729 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HP, RANGE, MERIDIAN: 6 Township: 09.0S Range: 21.0E Meridia	an: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
 	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT Date of Spud:	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of opius.	REPERFORATE CURRENT FORMATION SIDETRACK TO REPAIR WELL		TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
2/4/2013	WILDCAT WELL DETERMINATION	OTHER	OTHER:
	COMPLETED OPERATIONS. Clearly show a	D at 9,468	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY February 07, 2013
NAME (PLEASE PRINT) Laura Abrams	<b>PHONE NUMBE</b> 720 929-6356	Regulatory Analyst II	
SIGNATURE N/A		DATE 2/4/2013	

RECEIVED: Feb. 04, 2013

Sundry Number: 34545 API Well Number: 43047522900000

	STATE OF UTAH			FC	ORM 9		
ι	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND MI			5.LEASE DESIGNATION AND SERIAL NUM ML 22265	/IBER:		
SUNDR	RY NOTICES AND REPORTS	S ON V	VELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME	E:		
current bottom-hole depth, i	Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.						
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: MORGAN STATE 921-3611BS						
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	9. API NUMBER: 43047522900000						
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 802		IE NUMBER: 720 929-6	9. FIELD and POOL or WILDCAT: 5NATHERAL BUTTES			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2096 FSL 0729 FEL				COUNTY: UINTAH			
QTR/QTR, SECTION, TOWNSH	<b>HP, RANGE, MERIDIAN:</b> 6 Township: 09.0S Range: 21.0E Meri	idian: S		STATE: UTAH			
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE NA	TURE OF NOTICE, REPOR	₹T, OR OTHER DATA			
TYPE OF SUBMISSION			TYPE OF ACTION				
	ACIDIZE	☐ AL	TER CASING	CASING REPAIR			
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	Сн	ANGE TUBING	CHANGE WELL NAME			
	CHANGE WELL STATUS	□ со	MMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE			
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ FR	ACTURE TREAT	NEW CONSTRUCTION			
	OPERATOR CHANGE	PLI	UG AND ABANDON	PLUG BACK			
SPUD REPORT	✓ PRODUCTION START OR RESUME	RE	CLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION			
Date of Spud:	REPERFORATE CURRENT FORMATION		DETRACK TO REPAIR WELL	TEMPORARY ABANDON			
	TUBING REPAIR		NT OR FLARE	WATER DISPOSAL			
✓ DRILLING REPORT Report Date:	WATER SHUTOFF		TA STATUS EXTENSION	APD EXTENSION			
2/1/2013	_	□ <b>3</b> 1	TA STATUS EXTENSION				
	WILDCAT WELL DETERMINATION		HER	OTHER:			
The subject wel	COMPLETED OPERATIONS. Clearly show I was placed on production I History will be submitted very report.	n on 0	2/01/2013. The	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONL' February 20, 2013	Y		
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUM</b> 720 929-6857		<b>TITLE</b> Regulatory Analyst II				
SIGNATURE N/A			<b>DATE</b> 2/6/2013				

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES

AMENDED REPORT (highlight changes) FORM 8

			717/16			CAC	ANID	RAINIIAI		KEU	EIVED		igrilight c			<del>.</del>	
		L	סועוכ	ION O	F OIL,	GAS	AND	IVIIIVIIIV	G				LEASE DES ML 222		AND S	ERIAL NUME	3ER:
WEL	L COM	PLET	ION	OR I	RECC	MPL	ETIC	ON R	EPO	<del>MAK U</del> RT ANI	5 2013 D LOG		F INDIAN, A		OR TR	IBE NAME	
1a. TYPE OF WEL	=	O W	ELL E	] "	GAS WELL	7	DRY		49	AERFOIL, C	GAS & MINING	7. 1	JNIT or CA	AGREEME	NT NAI	ΜĒ	
b. TYPE OF WOR NEW WELL	K: HORIZ. LATS.	Di	EEP-	٦	RE- ENTRY	7	DIFF. RESVR.						WELL NAME			921-36	
2. NAME OF OPER	ATOR:			**		***	RESVR.	<u> </u>	ОТІ	HER			API NUMBE		AIL	921-36	1182
KERR MO		_ & GA	NO SA	ISHO	RE, L.F	·							430475				
3. ADDRESS OF O P.O.BOX 1	73779		ITY DE	ENVE	₹	STATE	СО	ZIP <b>80</b>	217		NUMBER: 20) 929-6000	10 F	NATUF				
<ol><li>LOCATION OF V AT SURFACE:</li></ol>			31 72	0 FFI	\$36 T	ne Pr	015					11.	QTR/QTR, MERIDIAN:	SECTION,	TOWN	SHIP, RANG	E,
						121-1		00 551		المناس المناسات		N	ESE	36 9	S	21E S	<b>:</b>
AT TOP PRODU										19S,R21	E						
AT TOTAL DEP	TH: NESE	2567	FSL	494 FI	EL S36	5,T9S	,R21E						COUNTY JINTAH	ł		I3. STATE	UTAH
14. DATE SPUDDED: 15. DATE T.D. REACHED: 16. DATE COMPLETED: 7/26/2012 10/2/2012 2/1/2013 ABANDONED READY TO PRODUCE \( \subseteq \)							CE 🗾	17. ELEV	ATIONS (E		, RT, GL):						
18. TOTAL DEPTH	<i>⊃</i> , <del>−</del> ,			19. PLUG	BACK T.E	23 22 4 1 1 2 2 2	9,411		20. IF	MULTIPLE CO	OMPLETIONS, HOW	MANY? *	21. DEPT				
22. TVDE ELECTRI	TVD 9,4						9,357						PLC	G 3E1.	TVI	)	
22. TYPE ELECTRI		MECHAN	NICAL LO	GS RUN (	Submit cop	y of each	1)			23.	LOODEDO		<b>7</b>				
CBL/GR/CC	CL/TEMP									WAS DST	L CORED? RUN?		=	≣S [] ≣S []		mit analysis) mit report)	
											NAL SURVEY?	NO	=	s <b>7</b>	•	nit copy)	
24. CASING AND L	INER RECORD	(Report	all string	ıs set in w	vell)												
HOLE SIZE	SIZE/GRA	DE	WEIGHT	Γ (#/ft.)	TOP (	MD)	вотто	OM (MD)		CEMENTER EPTH	CEMENT TYPE & NO. OF SACKS		RRY IE (BBL)	CEMENT	TOP **	AMOUNT	PULLED
20"	14"	STL	36.	7#	C	)	4	10			28				-		,
11"	8 5/8"	J-55	28	3#	0		2,	666			650		0				
7 7/8"	4 1/2"	I-80	11.	6#	0	1	9,	458			1,623			140	)6		
25. TUBING RECO																	
2 3/8"	DEPTHS		PACK	(ER SET (	MD)	SIZE		DEPTH	SET (MD	) PACKE	R SET (MD)	SIZE	DE	PTH SET	(MD)	PACKER S	ET (MD)
26. PRODUCING IN	<u> </u>	00	<u> </u>		Щ.			<u> </u>		27 DEDEO	DATION PEOODS						
FORMATION		TOP	(MD)	ВОТТО	OM (MD)	TOP	(TVD)	Вотто	M (TVD)		RATION RECORD  L (Top/Bot - MD)	SIZE	NO. HOLE	9 1	EDEO	RATION STA	TUC
(A) WASATO	Н	<u> </u>	198		237			1	( /	6,198	7,237	0.36	66	Open	_	Squeezed	<del></del>
(B) MESAVE	RDE		330	<del> </del>	287					7,330	9,287	0.36	162	Open	<u>7</u>	Squeezed	
(C)				<del>                                     </del>						8 6 7 6	<b>V</b> ,= <b>V</b> ,	0.00	102	Open		Squeezed	一
(D)	***							†						Open		Squeezed	
28. ACID, FRACTU	RE, TREATME	NT, СЕМЕ	NT SQU	EEZE, ET	C.								L				
DEPTH	INTERVAL		Ĭ						AN	OUNT AND T	YPE OF MATERIAL						
6198-9287			PUN	ИР 99 <sup>.</sup>	13 BBL	S SL	ICK H	20 & 2	222,26	6 LBS 3	0/50 OTTAW	'A SAN	ND				
				STAGE					· · · · · · · · · · · · · · · · · · ·			*	****				
29. ENCLOSED AT	TACHMENTS:													3	0. WEL	L STATUS:	
ELECT	RICAL/MECHA	NICAL LC	GS				П	GEOLOGI	C REPOR	ят 🕅 і	DST REPORT	7 DIREC	TIONAL SU	RVEY			
SUND	RY NOTICE FO	R PLUGG	ING AND	CEMENT	VERIFICA	TION		CORE AN			OTHER:					PROD	J
							_										

31. INITIAL PRO	DUCTION				IN <sup>-</sup>	TERVAL A (As sho	wn in item #26)						
DATE FIRST PR 2/1/2013	ODUCED:	TEST DAT 2/2/20			HOURS TESTE	D: <b>24</b>	TEST PRODUCTION RATES: →	NC	OIL – BBL:	GAS - MCF: 2,208	WATER -		PROD. METHOD: FLOWING
20/64	TBG. PRESS 1,707			RAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	ON	OIL – BBL:	GAS - MCF: 2,208	WATER -		INTERVAL STATUS PROD
					IN-	TERVAL B (As sho	wn in item #26)						<u></u>
DATE FIRST PR	ODUCED:	TEST DAT	TEST DATE: HOU		HOURS TESTE			TEST PRODUCTION RATES: →		GAS - MCF;	WATER -	- BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS	. CSG. PRE	SS. API GR	RAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	ON	OIL – BBL:	GAS MCF:	WATER -	- BBL:	INTERVAL STATUS
					IN	TERVAL C (As sho	wn in item #26)						<u> </u>
DATE FIRST PR	ODUCED:	TEST DAT	TEST DATE:		HOURS TESTE	HOURS TESTED:		N	OIL – BBL:	GAS - MCF:	WATER -	- BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS	. CSG. PRE	SS. API GR	AVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	ON	OIL – BBL:	GAS - MCF:	WATER -	- BBL:	INTERVAL STATUS
					INT	TERVAL D (As sho	wn in item #26)		·				L
DATE FIRST PR	ODUCED:	TEST DAT	TE:		HOURS TESTE	D:	TEST PRODUCTIC RATES: →	N	OIL – BBL:	GAS - MCF:	WATER -	- BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS	. CSG. PRE	SS. API GR	AVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	ОИ	OIL – BBL;	GAS - MCF:	WATER -	- BBL:	INTERVAL STATUS:
32. DISPOSITIO SOLD	N OF GAS (So	ld, Used for Fu	uel, Vented, Etc	;.)	- <b></b>	<u>.</u> ,			<u> </u>		<u>-                                    </u>		1
33. SUMMARY	OF POROUS Z	ONES (Include	Aquifers):	7.7		****		34.	. FORMATION	(Log) MARKERS:			
Show all importar tested, cushion u	nt zones of port sed, time tool o	osity and conter open, flowing an	nts thereof: Core	ed interva ures and	als and all drill-ster recoveries.	n tests, including de	pth interval						
Formatio	on	Top (MD)	Bottom (MD)		Descrip	otions, Contents, etc				Name		(1	Top Measured Depth)

				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1,333 1,654 2,131 4,669 7,317
35. ADDITIONAL REMARKS	(Include pluggi	na procedure)	 	<del></del>	

The first 210' of the surface hole was drilled with a 12 ¼" bit. The remainder of surface hole was drilled with an 11" bit. DQX csg was run from surface to 5021'; LTC csg was run from 5021' to 9458'. Attached is the chronological well history, perforation report & final survey.

36. I hereby certify that the	foregoing and attached information	is complete and correct	as determined from all a	vailable records.

NAME (PLEASE PRINT) LINDSEY FRAZIER

REGULATORY ANALYST

SIGNATURE

This report must be submitted within 30 days of

- · completing or plugging a new well
- · drilling horizontal laterals from an existing well bore
- · recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests
- \* ITEM 20: Show the number of completions if production is measured separately from two or more formations.
- \*\* ITEM 24: Cement Top Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to:

Utah Division of Oil, Gas and Mining 1594 West North Temple, Suite 1210

Box 145801

Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

### US ROCKIES REGION

### **Operation Summary Report**

Well: MORGAN		21-3611BS B	LUE					Spud Date: 8/5/2012
Event: DRILLING Start Date					RGAN ST	ATE 921	-36I PAD	Rig Name No: H&P 318/318, PROPETRO 11/11
					: 7/19/2012			End Date: 10/4/2012
Active Datum: Ri Level)	ea	UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2096/E/0/729/0/0						
Date	St	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
8/5/2012	8:00	- 9:30	1.50	MIRU	01	В	Р	M.S. 921-3611BS ( WELL 2 OF 4 ) INSTALL DIVERTOR HEAD AND BLUEY LINE. RIG UP NOV. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PUMP. PRIME PUMP. INSPECT RIG. SAFETY MEETING
		- 10:00	0.50	DRLSUR	06	Α	P	PICK UP #1 BHA
		- 11:30	1.50	DRLSUR	02	D	Р	DRL F/44' - T/210' (166' @ 166' ROP) W.O.B 5-15K RPM 45 POWERHEAD 67 MUD MOTOR UP/DWN/ROT 22/20/20 2K DRAG PSI ON/OFF 600/400 M.W. 8.5# VIS 27 397 GPM PUMP RATE / NO AIR NOV-ONLINE
		- 13:00	1.50	DRLSUR	06	Α	Р	TOOH WITH #1 BHA / TIH WITH #2 BHA
		- 0:00	11.00	DRLSUR	02	D	Р	DRL F/210' - T/1580' (1370'@ 124.5' ROP) W.O.B. 18 - 20K  RPM 45 POWERHEAD 67 MUD MOTOR  UP/DWN/ROT 73/53/61 12K DRAG  PSI ON/OFF 1430/1200  M.W. 8.5# VIS 27  397 GPM PUMP RATE / NO AIR  NOV-ONLINE  .30' HIGH AND 5' RIGHT OF TARGET  253' / 16.5% SLIDE
8/6/2012	0:00	- 4:00	4.00	DRLSUR	02	D	Р	DRL F/1580' - T/1970' (390'@ 97.5' ROP) W.O.B. 18 - 20K  RPM 45 POWERHEAD 67 MUD MOTOR  UP/DWN/ROT 83/61/76 7K DRAG  PSI ON/OFF 850/700  M.W. 8.5# VIS 27  397 GPM PUMP RATE / 2420 CFM AIR  TORQUE ON/OFF 3000/1500  NOV-ONLINE  4.5' HIGH 2.5' RIGHT OF LINE  SLID 310' / 15.5%
	4:00	- 8:00	4.00	DRLSUR	02	D	Р	DRL F/1970' - T/'2270' (300'@ 75' ROP)
	8:00	- 9:30	1.50	DRLSUR	80	В	Z	***CHANGE OUT LINER & SWAB ON MUD PUMP
	9:30	- 12:00	2.50	DRLSUR	02	D	Р	DRL F/2270" - T/2400' (130'@ 52' ROP) W.O.B. 18 - 20K  RPM 45 POWERHEAD 67 MUD MOTOR  UP/DWN/ROT 89/68/74 15K DRAG  PSI ON/OFF 1340/1150  M.W. 8.5# VIS 27  397 GPM PUMP RATE / 2420 CFM AIR RATE  TORQUE ON/OFF 3000/1500  NOV-ONLINE  1' LOW 1' RIGHT OF LINE  SLID 409' / 16.64%

# **Operation Summary Report**

Well: MORGAN	STATE 9	21-36I1BS B	LUE					Spud Date: 8/5/2012
Project: UTAH-L	IINTAH			Site: MOF	rgan st	ATE 921-	36I PAD	Rig Name No: H&P 318/318, PROPETRO 11/11
Event: DRILLING	3			Start Date	: 7/19/20	012		End Date: 10/4/2012
Active Datum: R Level)	KB @5,0	)59.00usft (ab	ove Mean S	ea	UWI: N	E/SE/0/9/9	S/21/E/36	/0/0/26/PM/S/2096/E/0/729/0/0
Date	A A A A CONTRACTOR	Time lart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
	12:00	- 14:30	2.50	DRLSUR	02	D	Р	DRL F/2400' - T/'2676' (276'@ 110.4' ROP) W.O.B. 18 - 20K  RPM 45 POWERHEAD 67 MUD MOTOR  UP/DWN ROT 92/70/80 12K DRAG  PSI ON/OFF 1400/1180  M.W. 8.5# VIS 27  397 GPM PUMP RATE / 2420 CFM AIR RATE  TORQUE ON/OFF 3000/1500  NOV-ONLINE 2' LOW 1' LEFT OF LINE
	14.30	48.00	0.00	DDI OUD	=		_	SLID 429' / 16.2%
		- 16:30 - 19:30	2.00	DRLSUR	05	C	P	CIRCULATE FOR CASING
			3.00	DRLSUR	06	Α	P	LDDS,BHA & DIRECTIONAL TOOLS
		- 20:30	1.00	DRLSUR	12	A	Þ	MOVĒ PIPE RACKS AND CATWALK, PULL DIVERTER HEAD. RIG UP TO RUN CSG, MOVE CSG INTO POSITION TO P/U.
		- 22:30	2.00	DRLSUR	12	С	Р	TIH 60 JOINTS 8 5/8", 28#, J55 CASING SHOE IS AT 2641.7' BAFFLE IS AT 2570.7'
		- 23:00	0.50	DRLSUR	12	B	Р	HOLD SAFETY MEETING PUMP ON CASING RUN 200' OF 1". RIG DOWN RIG MOVE OFF WELL, RIG UP CEMENT TRUCKS, AND CEMENT HEAD.
		- 0:00	1.00	CSGSUR	12	E	Р	MAKE UP HEAD AND LOAD PLUG. PRESSURE TEST LINES TO 2000PSI. PUMP 150BBLS AHEAD 8.4# H20. PUMP 20BBLS 8.4# GEL H2O AHEAD, PUMP 300 SXS (61.4BBLS) 15.8# 1.15 YIELD TAIL (2% CALC, 1/4#/SK OF FLOCECE) DROP PLUG ON THE FLY AND DISPLACE WITH 162.4BBLS OF 8.4# H20. FINAL LIFT PRESSURE WAS 300PSI, BUMP PRESSURE WAS 550PSI HELD FOR 5 MINS. FLOAT HELD. NO RETURNS THRU OUT JOB. PUMP 125 SK 15.8 (25.6BBLS) CEMENT, W/4% CALCIUM DOWN 1". NO CEMENT TO SURFACE.
8/7/2012	0:00	- 2:00	2.00	ĊŚĠSUR	13	Α	P	WOC PUMP 100SXS (20.4 BBLS) CEMENT DOWN BACKSIDE. (NO CMT TO SURFACE).
	0:00	- 0:30	0.50	CSGSUR	13	Α	Р	WOC PUMP 150SXS (30.7 BBLS) CEMENT DOWN BACKSIDE. (NO CMT TO SURFACE).
	2:00	- 3:30	1.50	CSGSUR	13	Α	P	WOC PUMP 125\$X\$ (25.6 BBLS) CEMENT DOWN BACKSIDE. (NO CMT TO SURFACE).
	3:30	- 5:00	1.50	CSGSUR	13	Α	Р	WOC PUMP 100SXS (20.4 BBLS) CEMENT DOWN BACKSIDE. (NO CMT TO SURFACE).
	5:00	- 5:00	0.00	CSGSUR	13	Α	Þ	WOC PUMP 100\$XS (20.4 BBLS) CĒMĒNT DOWN BACKSIDE. (CMT TO SURFACE). RELEASED RIG @ 05:00
9/26/2012		- 14:30	0.50	MIRU3	01	E	P	PREPARE RIG F/ SKID
		- 15;00	0.50	MIRU3	01	С	Р	SKID RIG & CENTER ON HOLE
		- 16:00	1.00	MIRU3	14	Α	Р	NIPPLE UP BOP & EQUIPMENT
	16:00	- 16:30	0.50	PRPSPD	07	À	Ë	RIG SERVICE

		198-1			oheig	uon 3	umma	y Report
Well: MORGAN	STATE 9	21-36I1BS	BLUE					Spud Date: 8/5/2012
Project: UTAH-l	JINTAH			Site: MOF	RGAN ST	ATE 921	-36I PAD	Rig Name No: H&P 318/318, PROPETRO 11/11
Event: DRILLIN	G			Start Date	e: 7/19/20	12		End Date: 10/4/2012
Active Datum: R Level)	RKB @5,0	59.00usft (a	bove Mean S	ea	UWI: NE	E/SE/0/9/	S/21/E/36/	0/0/26/PM/S/2096/E/0/729/0/0
Date	<ol> <li>Veril 2015, Sept.</li> </ol>	Time art-End	Duration (hr)	Phase	Code	Sub Code	₽/U	MD From Operation (usft)
	16:30	- 22:30	6.00	PRPSPD	15	Α	P	SAFETY MEETING W A-1 TESTING, RIG UP & TEST BOP, IBOP, LOWER KELLY VALVE, FLOOR VALVE, PIPE RAMS, BLIND RAMS, HCR, WING VALVES CHOKE MANIFOLD, CHECK VALVE LOW 250 HIGH 5,000 PSI ANN LOW 250 PSI HIGH 2500 PSI CASING 1500 FOR 30 MINS, TEST NOV SWACO CHOKE LINES & ORBIT VALVE TO 1,000 PSI ÖK, RIG DOWN TESTER
	22:30	- 23:00	0.50	PRPSPD	14	В	Р	INSTALL WEAR BUSHING
	23:00	- 0:00	1.00	PRPSPD	06	Α	P	PICKUP SECURITY FX65D BIT, SDI .23 GPR/ 1.5 BEND MOTOR, MWD
9/27/2012	0:00	- 2:00	2.00	PRPSPD	06	Α	P	ORIENT MDW & TRIP IN HOLE, TAG CEMENT @ 2571'
	2:00	- 3:00	1.00	DRLPRC	02	Ē	P	DRILL CEMENT & FLOAT EQUIP F/ 2571' TO 2696' , SPUD @ 02:00 9/27/2012
	3:00 6:00	- 6:00 - 14:00	3.00 8.00	DRLPRC	02	В	P	DRILL F/ 2696' TO 3077' ,,381' @ 127' HR WEIGHT ON BIT: 18 ROTATIONS PER MINUTE: 41 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 1800/1350 PICKUP/SLACK OFF/ROTATE: 105/82/94 BIT POSTION @ 3037' 3.4' N , .7' W MUD WEIGHT 8.7 , VISCOSITY 27 ROTATE:337' IN 2.41 HRS= 139.8' HR SLIDE: 44' IN .59 HRS = 74.5' HR NOV: DEWATERING DRILL F/ 3077' TO 4240' , 1163' @ 145.3' HR WEIGHT ON BIT: 18/20
	14:00	- 14:30	0.50	DRLPRC	22	L	z	ROTATIONS PER MINUTE: 40/50 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2100/1470 PICKUP/SLACK OFF/ROTATE: 134/105/120 MUD WEIGHT 8.7 , VISCOSITY 27 ROTATE: 1095' IN 6.34 HR = 172.3' HR SLIDE: 68' IN 1.66 HRS = 40.9' HR NOV: DEWATERING *** TROUBLE SHOOT MWD SIGNAL*** SURFACE
	4.4.20	48.00	4.00	551554		_	_	ISSUES
	14.30	- 15:30	1.00	DRLPRC	02	В	Р	DRILL F/ 4240' TO 4430', 190' @ 190' HR WEIGHT ON BIT: 18/20 ROTATIONS PER MINUTE: 48 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2070/1450 PICKUP/SLACK OFF/ROTATE: 134/105/12 MUD WEIGHT 8.7 , VISCOSITY 27 ROTATE:177' IN .67 HRS = 264.1' HR SLIDE: 13' IN .33 HRS = 39.3' HR NOV: DEWATERING
	15:30	- 16:00	0.50	DRLPRC	22	L	Z	*** TROUBLE SHOOT MDW SIGNAL*** SURFACE
						_		ISSUES

2/21/2013 10:42:53AM

# **Operation Summary Report**

Well: MORGAN		121-3611B5 B	LUE	r				Spud Date: 8/5/2012		
Project: UTAH-l	JINTAH			Site: MOF	RGAN ST	ATE 92	1-36I PAD	Rig Name No: H&P 318/318, PROPETRO 11/11		
Event: DRILLIN	G			Start Date	e: 7/19/20	12		End Date: 10/4/2012		
Active Datum: F	RKB @5,0	59.00usft (ab	ove Mean Se	ea	UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2096/E/0/729/0/0					
Level)	THE THE SEA			A 4 1 3 M		1	T-12623700			
Date	St	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usff)		
	16:00	- 16:30	0.50	DRLPRC	02	В	Р	DRILL F/ 4430' TO 4523' , 93' @ 186' HR		
								WEIGHT ON BIT: 18/20		
								ROTATIONS PER MINUTE: 50		
								STROKES PER MINUTE: 120		
								GALLONS PER MINUTE: 540		
								ON/OFF PSI: 2100/1450		
								PICKUP/SLACK OFF/ROTATE: 135/106/13		
								MUD WEIGHT 8.7 , VISCOSITY 27 ROTATE:		
								SLIDE:		
								NOV: DEWATERING		
	16:30	- 17:00	0.50	DRLPRC	22	L	Z	*** TROUBLE SHOOT MWD SIGNAL*** SURFACE		
								ISSUES, RUNNING NEW GROUND WIRES		
	17:00	- 17:30	0.50	DRLPRC	07	Α	Р	RIG SERVICE & (TROUBLE SHOOT MWD SIGNAL)		
								RUNNING NEW GROUND WIRES, CHANGING OUT COMPUTERS		
	17:30	- 18:30	1.00	DRLPRC	22	L	Z	*** TROUBLE SHOOTING MWD SIGNAL*** SURFACE		
								ISSUES, CHANGE OUT COMPUTER & TALK DOWN BOX, REPROGRAM COMPUTER		
	18:30	- 0:00	5.50	DRLPRC	02	В	Р	DRILL F/ 4523' TO 5245' , 722' @ 131.7' HR		
								WEIGHT ON BIT: 22/25		
								ROTATIONS PER MINUTE: 40/50		
								STROKES PER MINUTE: 120		
								GALLONS PER MINUTE: 540		
								ON/OFF PSI: 2420/1850		
								PICKUP/SLACK OFF/ROTATE: 156/105/126  MUD WEIGHT 8.7 , VISCOSITY 27		
								ROTATE: 689' IN 4.42 HRS = 155.8' HR		
								SLIDE: 33' IN 1.08 HRS - 30,5' HR		
								NOV: DEWATERING		
9/28/2012	0:00	- 3:00	3.00	DRLPRV	02	В	Р	DRILL F/ 5245' TO 5655', 410' @ 136.6' HR		
								WEIGHT ON BIT: 22/25		
								ROTATIONS PER MINUTE: 40/50		
								STROKES PER MINUTE: 120		
								GALLONS PER MINUTE: 540		
								ON/OFF PSI: 2420/1850		
								PICKUP/SLACK OFF/ROTATE: 156/105/126		
								MUD WEIGHT 8.9 , VISCOSITY 27 BIT POSITION @ 5657' 16.4' N , 7.7' W		
								ROTATE: 398' IN 2.75 HRS = 144.7' HR		
								SLIDE: 12' IN .25 HRS = 48' HR		
								NOV: DEWATERING		
								LOST 60 BBLS TO SEEPAGE , PUMPING LCM		
								SWEEPS		
	3:00	- 3:30	0.50	DRLPRV	22	G	Х	*** LOST CIRC *** ( BREIFLY ) PUMPED 80 BBL LCM		
								SWEEP, LOST 85 BBLS		

2/21/2013 10:42:53AM

#### **Operation Summary Report**

Well: MORGAN :	STATE 9:	21 <b>-</b> 36I1BS B	LUE					Spud Date: 8/5/2012
Project: UTAH-U	INTAH			Site: MOR	GAN ST	ATE 921-	36I PAD	Rig Name No: H&P 318/318, PROPETRO 11/11
Event: DRILLING	3			Start Date	: 7/19/20	112		End Date: 10/4/2012
Active Datum: RKB @5,059.00usft (above Mean Sea Level)					UWI: NI	E/SE/0/9/	S/21/E/36/0	0/0/26/PM/S/2096/E/0/729/0/0
Date	100 100 100 100 100 100	Fime art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
	3:30	- 11:00	7.50	DRLPRV	02	В	P	DRILL F/ 5655' TO 6148', 493' @ 65.7' HR WEIGHT ON BIT: 22/25 ROTATIONS PER MINUTE: 40/50 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2350/1850 PICKUP/SLACK OFF/ROTATE: 182/120/144 MUD WEIGHT 8.7 , VISCOSITY 27 ROTATE: 493' IN 7.5 HRS = 65.7' HR SLIDE: 0 NOV: DEWATERING LOST 100 BBLS TO SEEPAGE , PUMPING LCM SWEEPS
	11:00	- 11:30	0.50	DRLPRV	22	L	Z	*** TROUBLE SHOOT MWD SIGNAL ***
	11:30 17:00	- 17:00 - 17:30	5.50 0.50	DRLPRV	02 07	B	P	DRILL F/ 6148' TO 6791', 643' @ 116.9' HR WEIGHT ON BIT: 22/25 ROTATIONS PER MINUTE: 45/50 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI: 2200/ 1800 PICKUP/SLACK OFF/ROTATE: 193/130/156 MUD WEIGHT 8.6 , VISCOSITY 27 ROTATE: 630' IN 4.33 HRS = 145.4' HR SLIDE: 13' IN 1.17 HRS = 11.1' HR NOV: DEWATERING LOST 60 BBLS TO SEEPAGE, PUMPING LCM SWEEPS RIG SERVICE
	17:30	- 18:30	1.00	DRLPRV	02	В	Р	DRILL F/ 6791' TO 6888', 97' @ 97' HR WEIGHT ON BIT: 22/25 ROTATIONS PER MINUTE: 47 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI:2200/1800 PICKUP/SLACK OFF/ROTATE: 195/130/156 MUD WEIGHT 8.7 , VISCOSITY 27 ROTATE: SLIDE: NOV: DEWATERING
	18:30	- 19:30	1.00	DRLPRV	22	L	Z	*** MWD FAILURE *** TROUBLE SHOOT MWD , HAD GOOD SIGNAL BUT TOOL WOULD NOT SYNC UP
		- 20:00	0.50	DRLPRV	05	С	Z	*** MWD FAILURE*** TRANSFER 60 BBLS HEAVY MUD TO PILL TANK ,CONDITION AND SPOT 60 BBL 10.5# PILL ON BOTTOM
0.100.105.15	20:00	- 0:00	4.00	DRLPRV	06	Н	Z	*** MWD FAILURE *** TRIP OUT OF HOLE @ 1000'
9/29/2012		- 1:30	1.50	DRLPRV	06	Н	Z	*** MWD FAILURE *** FINISH TRIP OUT OF HOLE, CHANGE GAP SUB & MWD TOOL, CHECK MOTOR & BIT "OK"
	1:30	- 4:00	2.50	DRLPRV	06	H	Z	*** MWD FAILURE *** TRIP IN HOLE , TAG @ 5465'
	4:00	- 7:00	3.00	DRLPRV	03	Α	Z	*** MWD FAILURE *** WASH & REAM F/ 5465' TO 6888'

			(	Opera	tion S	Summa	ry Report		
Well: MORGAN	STATE 921-36 1BS	BLUE					Spud Date: 8/5	5/2012	
Project: UTAH-	UINTAH		Site: MOF	RGAN ST	ATE 921	1-36I PAD		Rig Name No: H&P 318/318, PROPETRO 11/11	
Event: DRILLIN	G		Start Date	: 7/19/20	112		*	End Date: 10/4/2012	
	RKB @5,059.00usft (a	bove Mean Se	эа	UWI: NI	E/SE/0/9	/S/21/E/36/	0/0/26/PM/S/20	96/E/0/729/0/0	
Level) Date	Time	Duration	Phase	Code	Sub	P/U	MD From	Operation	
Date	Time Start-End 7:00 - 12:00  12:00 - 13:30  13:30 - 16:00  16:00 - 17:00	Duration (hr) 5.00  1.50  2.50	DRLPRV  DRLPRV  DRLPRV	02 22 22	G G	P/U P	MD From (usft)	Operation  DRILL F/ 6888' TO 7192' , 304' @ 60.8' HR WEIGHT ON BIT: 22/25 ROTATIONS PER MINUTE: 45/55 STROKES PER MINUTE: 120 GALLONS PER MINUTE: 540 ON/OFF PSI:2200/1800 PICKUP/SLACK OFF/ROTATE: 193/134/159 MUD WEIGHT 8.7 , VISCOSITY 27 ROTATE: 279' @ 3.58 HRS = 77.9' HR SLIDE: 25' IN 1.42 HRS = 17.6' HR NOV: DEWATERING LOST 200 BBLS , HOLE SEEPING APPROX 40 BBLS/HR, PUMPING LCM SWEEPS **** LOST CIRC **** PUMP 2- 80 BBL 50 VIS LCM SWEEPS , REGAINED CIRCULATION, WORK TIGHT HOLE ,REAM TO BOTTOM, LOST CIRCULATION AGAIN LOST 300 BBLS ****LOST CIRC**** BACK REAM OUT 10 STANDS F/ 7192' TO 6222' , TIGHT F/ 7192' TO 6504' LOST 200 BBLS ****LOST CIRC***** CIRCULATE , BUILD VOLUME, PUMP	
	17:00 - 17:30	0.50	DRLPRV	22	G	X		45 BBL LCM SWEEP @ 60 STROKES PER MINUTE, REGAINED CIRCULATION, LOST 100 BBLS ***LOST CIRC*** WASH & REAM 5 STANDS F/ 6222'	
	17:30 - 18:00	0.50	DRLPRV	22	G	Х		TO 6775'  ***LOST CIRC***PUMP 20 BBL 50 VIS SWEEP & CIRC BOTTOMS UP	
	18:00 - 19:30	1.50	DRLPRV	22	G	Х		***LOST CIRC*** WASH & REAM F/ 6775' TO 7180' LOST CIRC AGAIN	
	19:30 - 21:00	1.50	DRLPRV	22	Ğ	X		***LOST CIRC***BY PASS SHAKERS AS INSTRUCTED BY MR GATHINGS, BUILD VOLUME RAISE LCM CONTENT TO 20%, PUMP 2-80 BBL 50 VIS 20% LCM SWEEPS REGAINED CIRCULATION LOST 250 BBLS	
	21:00 - 0:00	3.00	DRLPRV	02	В	P		DRILL F/ 7192' TO 7295', 103' @ 34.3' HR WEIGHT ON BIT: 22/25 ROTATIONS PER MINUTE: 45/55 STROKES PER MINUTE: 110 GALLONS PER MINUTE: 495 ON/OFF PSI: 1900/1700 PICKUP/SLACK OFF/ROTATE: 193/145/165 MUD WEIGHT 8.8 , VISCOSITY 36 , LCM 20% ROTATE: 103' IN 3 HRS = 33.4' HR SLIDE: 0 NOV: RUNNING CONVENTIONAL LOST 100 BBLS TO SEEPAGE APPROX 33 BBLS PER HR NOTE: TOTCO WAS DOWN F/ 21:15 TO 23:54 DUE TO GENERATOR GOING DOWN	

6 2/21/2013 10:42:53AM

	se Code	Date: 7/19 UWI	012 IE/SE/0/9/		Rig Name No: H&P 318/318, PROPETRO 11/11  End Date: 10/4/2012  0/0/26/PM/S/2096/E/0/729/0/0  MD From (usft)  DRILL F/ 7295' TO 7550' , 255' @ 42.5' HR WEIGHT ON BIT: 22/25 TORQUE ON/OFF 9/7
Active Datum: RKB @5,059.00usft (above Mean Sea Level)    Date   Time   Duration   Phase   Start-End   (hr)     9/30/2012   0:00 - 6:00   6:00   DRLP     6:00 - 10:00   4:00   DRLP	UWI: I	UWI	Sub Code	P/U	MD From (usft)  DRILL F/ 7295' TO 7550' , 255' @ 42.5' HR WEIGHT ON BIT: 22/25
Active Datum: RKB @5,059.00usft (above Mean Sea Level)  Date Time Duration (hr)  9/30/2012 0:00 - 6:00 6.00 DRLP  6:00 - 10:00 4.00 DRLP	UWI: I	UWI	Sub Code	P/U	MD From (usft)  DRILL F/ 7295' TO 7550' , 255' @ 42.5' HR WEIGHT ON BIT: 22/25
Start-End (hr) 9/30/2012 0:00 - 6:00 6.00 DRLP 6:00 - 10:00 4.00 DRLP			Code		(usft)  DRILL F/ 7295' TO 7550' , 255' @ 42.5' HR  WEIGHT ON BIT: 22/25
6:00 - 10:00 4.00 DRLF	RV 02	V 02	В	P	WEIGHT ON BIT: 22/25
10:30 - 17:00 6.50 DRLF			В	P	ROTATIONS PER MINUTE: 45/50 STROKES PER MINUTE: 110 GALLONS PER MINUTE: 495 ON/OFF PSI: 1900/1700 PICKUP/SLACK OFF/ROTATE: 193/145/165 MUD WEIGHT 8.8 , VISCOSITY 36 , LCM 20% ROTATE: 244' IN 5.42' = 45' HR SLIDE: 11' IN .58 HRS = 18.9' HR NOV: RUNNING CONVENTIONAL LOSSES 180 BBLS TO SEEPAGE. APPROX 30 BBLS /HR DRILL F/ 7550' TO 7772' , 222' @ 55.5' HR WEIGHT ON BIT: 22/25 TORQUE ON/OFF 10/8 ROTATIONS PER MINUTE: 45/52 STROKES PER MINUTE: 495 ON/OFF PSI: 2000/1800 PICKUP/SLACK OFF/ROTATE: 200/148/172 MUD WEIGHT 8.8 , VISCOSITY 36 , LCM 20% ROTATE: 222' IN 4 HRS = 55.5' HR SLIDE: 0 NOV: RUNNING CONVENTIONAL LOSSES 50 BBLS TO SEEPAGE , APPROX 12.5 BBLS / HR RIG SERVICE
	RV 02	V 02	В	P	DRILL F/7772' TO 8111', 339' @ 52.1' HR WEIGHT ON BIT: 25/28 TORQUE ON/OFF 12/8 ROTATIONS PER MINUTE: 50/55 STROKES PER MINUTE: 110 GALLONS PER MINUTE: 495 ON/OFF PSI: 2200/1700 PICKUP/SLACK OFF/ROTATE: 206/161/175 MUD WEIGHT 8.8 , VISCOSITY 37 , LCM 20% ROTATE: 327' IN 5.67' HR = 57.6' HR SLIDĒ: 12' IN .83 HRS = 14.4' HR NOV: RUNNING CONVENTIONAL LOSSES 50 BBLS TO SEEPAGE, APPROX 8 BBLS /HR

2/21/2013 10:42:53AM

# **Operation Summary Report**

Well: MORGAN	STATE 921-36I1BS	BLUE					Spud Date: 8/5	5/2012		
Project: UTAH-U	INTAH		Site: MOI	RGAN ST	ATE 921-	361 PAD	<del> :</del>	Rig Name No: H&P 318/318, PROPETRO 11/11		
Event: DRILLING	3		Start Date	e: 7/19/20	112			End Date: 10/4/2012		
Active Datum: RI	KB @5,059.00usft (a	bove Mean S	ea	UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2096/E/0/729/0/0						
Date	Time	Duration	Phase	Code	Sub	P/U	MD From	Operation		
er gare in the first	Start-End 18:00 - 0:00	(hr)   6.00	DRLPRV		Code		(usft)	DDILL E/94441 TO 92871 2581 @ 40 8111D		
10/1/2012	0:00 - 7:00	7.00	DRLPRV	02	В	Р		DRILL F/ 8111' TO 8367', 256' @ 42.6' HR WEIGHT ON BIT: 25/28 TORQUE ON/OFF13/10 ROTATIONS PER MINUTE: 50/58 STROKES PER MINUTE: 110 GALLONS PER MINUTE: 495 ON/OFF PSI: 2200/1750 PICKUP/SLACK OFF/ROTATE: 210/160/180 MUD WEIGHT 8.8 , VISCOSITY 35 , LCM 20% ROTATE: 244' IN 5 HRS = 48.8' HR SLIDE: 12' IN 1 HR = 12' HR NOV: RUNNING CONVENTIONAL LOSSES 54 BBLS, APPROX 9 BBLS /HR DRILL F/ 8367' TO 8637' , 270' @ 38.5' HR WEIGHT ON BIT: 25/28 TORQUE ON/OFF 13/10 ROTATIONS PER MINUTE: 50/58 STROKES PER MINUTE: 495 ON/OFF PSI: 2200/1750 PICKUP/SLACK OFF/ROTATE: 210/160/180 MUD WEIGHT 8.8 , VISCOSITY 35 , LCM 20% ROTATE: 270' IN 7 HRS = 38.5' HR SLIDE:0 NOV: RUNNING CONVENTIONAL		
	7:00 - 8:30	1.50	DRLPRV	05	С	Р		MOTOR SPIKING 900 PSI TO 1180 PSI CIRCULATE & CONDITION, RAISE MUD WT TO 10.8, VIS 41, LCM 24%		
	8:30 - 13:00	4.50	DRLPRV	06	Α	P		TRIP OUT OF HOLE, TO 400' WELL FLOWING		
	13:00 - 13:30	0.50	DRLPRV	06	Α	X		*** WELL FLOWING***TRIP IN HOLE TO 1500'		
	13:30 - 15:00	1.50	DRLPRV	05	В	Х		*** WELL FLOWING***BUILD & SPOT 70 BBL 12.2 PILL, WELL STILL FLOWING		
	15:00 - 16:30	1.50	DRLPRV	06	Α	X		***WELL FLOWING***TRIP IN HOLE TO 4000'		
	16:30 - 17:00	0.50	DŘLPŘV	05	Α	Χ		***WELL FLÓWÍNĞ***ČÍŘĆ ÖUT ĞAŞ 30' FLARE		
	17:00 - 17:30	0.50	DRLPRV	06	Α	Х		***WELL FLOWING***TRIP IN HOLE TO 5870'		
	17:30 - 18:00	0.50	DRLPRV	05	Ä	X		***WELL FLOWING***CIRC OUT GAS 35' FLARE		
	18:00 - 19:00	1.00	DRLPRV	06	Α	X		***WELL FLOWING*** TRIP IN HOLE TO BOTTOM		
	19:00 - 21:00	2.00	DRLPRV	05	В	X		***WELL FLOWING*** CIRCULATE & CONDITION , RAISE MUD WT TO 11.6#, SPOT 40 BBL 12.2# ON BOTTOM		
	21:00 - 0:00	3.00	DRLPRV	06	Α	P		TRIP OUT OF HOLE @ 4000'		
10/2/2012	0:00 - 2:30	2.50	DRLPRV	06	Α	P		TRIP OUT OF HOLE, LAY DOWN MOTOR & BIT		
	2:30 - 7:30	5.00	DRLPRV	06	Α	P		PICK UP NEW SMITH MDI 616 BIT , SDI .23 RPG/ 1.5 MOTOR , ORIENT MWD, TRIP IN HOLE, TO 6000' BREAKING CIRCULATION @ 2900' , 4250' , TAG & WASH TROUGHT TIGHT SPOT @ 4600' TO 4800'		
	7:30 - 8:00	0.50	DRLPRV	05	Α	P -		CIRC OUT GAS , 25' FLARE		
	8:00 - 10:00	2.00	DRLPRV	06	Α	Р		TRIP IN HOLE, WASH F/ 8483' TO 8637'		

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# Operation Summary Report

Well: MORGAN S	STATE 921-36I1BS	BLUE					Spud Date: 8/5/2012
Project: UTAH-U	INTAH		Site: MOF	RGAN ST	ATE 921	-36I PAD	Rig Name No: H&P 318/318, PROPETRO 11/11
Event: DRILLING	i		Start Date	e: 7/19/20	)12		End Date: 10/4/2012
Active Datum: Rh Level)	(B @5,059.00usft	(above Mean Se	еа	UWI: NE	E/SE/0/9	/S/21/E/36	/0/0/26/PM/S/2096/E/0/729/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	∖P/U	MD From Operation (usft)
	10:00 - 16:00	6.00	DRLPRV	02	В	P	DRILL F/ 8637' TO 9055', 418' @ 69.6' HR WEIGHT ON BIT: 22/26 TORQUE ON/OFF 13/10 ROTATIONS PER MINUTE: 45/55 STROKES PER MINUTE: 110 GALLONS PER MINUTE: 495 ON/OFF PSI: PICKUP/SLACK OFF/ROTATE: MUD WEIGHT 12, VISCOSITY 42, LCM 18% ROTATE: 418' IN 6 HR = 69.6' HR SLIDE:0 NOV: SHUT DOWN
	16:30 - 16:30 16:30 - 23:30	0.50 7.00	DRLPRV DRLPRV	07 02	В	PP	RIG SERVICE  DRILL F/ 9055' TO 9468' TD @ 23:30 10/2/2012, 413' @ 59' HR  WEIGHT ON BIT: 22/26  TORQUE ON/OFF 15/10  ROTATIONS PER MINUTE: 45/50  STROKES PER MINUTE: 110  GALLONS PER MINUTE: 495  ON/OFF PSI: 3200/2600  PICKUP/SLACK OFF/ROTATE 232/155/184  MUD WEIGHT 12 , VISCOSITY 41, LCM 18%  ROTATE: 413' IN 7 HRS = 59' HR  SLIDE:0  NOV: SHUT DOWN
	23:30 - 0:00	0.50	DRLPRV	05	Α	P	CIRCULATE & CONDITION F/ SHORT TRIP
10/3/2012	0:00 - 1:30	1.50	DRLPRV	05	Α	Р	CIRCULATE & CONDITION F/ SHORT TRIP
	1:30 - 3:00	1.50	DRLPRV	06	Е	P	SHORT TRIP 10 STANDS, NO PROBLEMS
	3:00 - 5:00	2.00	DRLPRV	05	Α	P	CIRCULATE & CONDITION F/ CASING
	5:00 - 11:30		DRLPRV	06	Α	P	TRIP OUT OF HOLE LAY DOWN MWD, MOTOR, BIT
	11:30 - 12:00		DRLPRV	14	В	Р	PULL WEAR BUSHING
	12:00 - 13:30		CSGPRO	12	A	P	SAFETY MEETING W/ KIMZEY & RIG UP CASERS
	13:30 - 14:30		CSGPRO	12	C	P	RUN 4.5", 11.6#, I80 PRODUCTION CASING TO 929' KIMZEY HAVING PROBLEMS W/ POWER UNIT
	14:30 - 16:30 16:30 - 18:00		CSGPRO CSGPRO	22	L L	z z	*** EQUIP FAILURE*** CHANGE OUT POWER UNIT AND POWER TONGS, STILL NOT WORKING ***EQUIPMENT FAILURE*** WAIT ON NEW
	19:00	0.00	CCCDBŌ	10	_	ñ	EQUIPMENT AND RIG UP
	18:00 - 20:00 20:00 - 21:30		CSGPRO	12	С	P Z	RUN 4.5" 11.6# , 180 PRODUCTION CASING TO 4260'
	20:00 - 21:30 21:30 - 0:00	1.50 2.50	CSGPRO	22 12	L C	Z P	TROUBLE SHOOT POWER TONGS , CHANGE OUT POWER TONGS (THIS IS THE 4TH SET OF TONGS) RUN 4.5" 11.6# , 180 PRODUCTION CASING @ 8442'
10/4/2012	0:00 - 0:30	0.50	CSGPRO	12	c	P	FINISH RUNNING 4.5", 11.6#, I80 PRODUCTION
10/4/2012							CASING (101 JTS LT&C , 114 JTS DQX ) TO 9458', TOP OF FLOAT 9411' , TOP OF MARKER 7272', TOP OF X/O 5000'
l	0:30 - 2:30	2.00	CSGPRO	05	D	P	CIRCULATE OUT GAS, NO FLARE

			Ļ	JS ROC	KIES RE	GION
			Opera	ation S	Summa	ry Report
Well: MORGAN STATE 921-	36I1BS BLUE			57.45		Spud Date: 8/5/2012
Project: UTAH-UINTAH Site: MO			RGAN S	TATE 921	-36I PAD	Rig Name No: H&P 318/318, PROPETRO 11/11
Event: DRILLING Start Da			e: 7/19/2	012		End Date: 10/4/2012
Active Datum: RKB @5,059.00usft (above Mean Sea Level)			UWI: N	IE/SE/0/9	/S/21/E/36/	0/0/26/PM/S/2096/E/0/729/0/0
Date Tim		on Phase	Code	Sub Code	P/U	MD From Operation (usft)
	7:00 1.00	) DRLPRV	12	E	P	CEMENT PROD CASING, PRESSURE TEST TO 5050 PSI, DROP BOTTOM PLUG, PUMP 25 BBLS SPACER , 518 SX, PREMIUM LITE II CEMENT + 5 LBS/SACK KOL-SEAL, 50 LB BAG + 0.4% BWOC FL-52 + 0.4% BWOC SODIUM METASILICATE + 6% BWOC BENTONITE II + 0.05LBS/SACK STATIC FREE + 0.6% BWOC R-3 + 0.25 LBS/SACK CELLO FLAKE + 100.1 FRESH WATER , 12.5# , 1.98 YLD, LEAD , 1105 SACKS ( 50:50) POZ ( FLY ASH): CLASS G CEMENT + 0.05 LBS/SACK STATIC FREE + 10% BWOW SODIUM CHLORIDE + 0.2% BWOC R-3 + 0.5% BWOC EC-1 + 0.002 GPS FP-6L + 2% BWOC BENTONITE II + 58.9% FRESH WATER 14.3# ,1.32 YLD TAIL, SHUT DOWN WASH UP ,DROP TOP PLUG, DISPLACE W/ 146.5 BBLS CLAY CARE + 1 GAL MAGNACIDE @ 8.34 PPG, FINAL LIFT 2715 PSI , BUMP PLUG @ 3400 PSI HELD F/ 5 MIN , FLOATS HELD ,FULL RETURNS THROUGH OUT JOB, 8 BBLS SPACER NO CEMENT BACK TO SURFACE ,TOP OF TAIL EST 4100', FLUSH STACK AND LINES , RIG DOWN CEMENTERS SET PACKOFF TOOL, LAY DOWN LANDING JOINT
	7:00 1.00 8:00 1.00		14 14	A	P	SET PACKOFF TOOL, LAY DOWN LANDING JOINT  NIPPLE DOWN BOP & EQUIPMENT, RELEASE RIG @  08:00 10/4/2012 TO MORGAN STATE 921-36H4CS

2/21/2013 10 10:42:53AM

### 1 General

#### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

#### 1.2 Well/Wellbore Information

Well	MORGAN STATE 921-36/1BS BLUE	Wellbore No.	OH
Well Name	MORGAN STATE 921-36/1BS	Wellbore Name	MORGAN STATE 921-36/1BS
Report No.	1	Report Date	12/5/2012
Project	UTAH-UINTAH	Site	MORGAN STATE 921-36I PAD
Rig Name/No.		Event	COMPLETION
Start Date	12/5/2012	End Date	2/1/2013
Spud Date	8/5/2012	Active Datum	RKB @5,059.00usft (above Mean Sea Level)
UWI	NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2096/E/0/729/0/0		

#### 1.3 General

Contractor	Job Method	 Supervisor	
Perforated Assembly	Conveyed Method		

#### 1.4 Initial Conditions

#### 1.5 Summary

Fluid Type	Fluid Density	Gross Interval	6,198.0 (usft)-9,287.0 (usft	Start Date/Time	1/21/2013 12:00AM
Surface Press	Estimate Res Press	No. of intervals	57	End Date/Time	1/21/2013 12:00AM
TVD Fluid Top	Fluid Head	Total Shots	228	Net Perforation Interval	74.00 (usft)
Hydrostatic Press	Press Difference	Avg Shot Density	3.08 (shot/ft)	Final Surface Pressure	
Balance Cond NEUTRAL				Final Press Date	

#### 2 Intervals

#### 2.1 Perforated Interval

Date Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)		Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Ty	pe /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/21/2013 WASATCH/ 12:00AM			6,198.0	6,200.0	3.00		0.360	EXP/		3,375	120.00		23.00	PRODUCTIO N	

#### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usff)	Shot Density (shot/ft)	Misfires/i Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc/Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/21/2013 12:00AM	WASATCH/			6,471.0	6,472.0			0.360	EXP/	3.375	120.00			PRODUCTIO N	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT N
1/21/2013 12:00AM	WASATCH/			6,480.0	6,482.0	3.00	SECURIOR A CELEBRATION A CELEB	0.360	EXP/	3.375	120.00			PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,497.0	6,499.0	3.00	No.	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,565.0	6,566.0	3.00	V (17 m) 4 m) 4 m)	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			6,647.0	6,649.0	3.00	2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	0.360	EXP/	3.375	120.00			PRODUCTIO N	
	WASATCH/			6,691.0	6,693.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	WASATCH/			6,824.0	6,826.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	WASATCH/			7,079.0	7,081.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			7,177.0	7,178.0	4.00	A LL YOUNG THE REAL PROPERTY AND ADMINISTRATION OF THE PROPERTY ADMINISTRATION OF THE PROPERTY AND ADMINISTRATION OF THE PROPERTY AND ADMINISTRATION OF THE PROPERTY AND ADMINISTRATION OF THE	0.360	EXP/	3.375	90.00			PRODUCTIO N	
	WASATCH/			7,195.0	7,197.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	WASATCH/			7,236.0	7,237.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,330.0	7,332.0	3.00	-	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,362.0	7,363.0	3.00	O.A. or y resonance	0.360	EXP/	3.375	120,00		1	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/		THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COL	7,399.0	7,400.0	3.00	Occupant of the state of the st	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			7,468.0	7,470.0	3.00	Town on a	0.360	EXP/	3.375	120.00	The state of the s		PRODUCTIO N	
	MESAVERDE/			7,560.0	7,561.0	3.00		0.360	EXP/	3.375	120.00		1	PRODUCTIO N	
	MESAVERDE/			7,568.0	7,569.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/	-		7,609.0	7,610.0	3.00	The second second	0.360	EXP/	3.375	120.00	7 7 7	1	PRODUCTIO N	
	MESAVERDE/			7,680.0	7,681.0	3.00		0.360	EXP/	3.375	120.00	The state of the s	23.00	PRODUCTIO N	
	MESAVERDE/			7,691.0	7,692.0	3.00		0.360	EXP/	3.375	120.00		1	PRODUCTIO N	
	MESAVERDE/			7,710.0	7,711.0	3.00		0.360	EXP/	3.375	120.00		1	PRODUCTIO N	The state of the s

#### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc/Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/21/2013 12:00AM	MESAVERDE/			7,725.0	7,726.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/	1000		7,770.0	7,771.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,819.0	7,820.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,842.0	7,843.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			7,921.0	7,922.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			7,957.0	7,959.0	3.00	Make William Property of the Control	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			7,994.0	7,995.0	3.00		0.360	EXP/	3.375	120.00		1	PRODUCTIO N	
**************************************	MESAVERDE/			8,031.0	8,032.0	3.00	ericen commente commente de la comme	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			8,055.0	8,056.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			8,179.0	8,181.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			8,261.0	8,262.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,310.0	8,311.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			8,374.0	8,376.0	3.00	- manufactific PHILIPPEN TO PARTY OF PARTY	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,395.0	8,396.0	3.00	manual Amazara (Mari Amazara Amazara	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			8,409.0	8,410.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
VA	MESAVERDE/			8,429.0	8,430.0	3.00		0.360	EXP/	3.375	120.00	TO THE STATE OF TH	1	PRODUCTIO N	
	MESAVERDE/			8,461.0	8,462.0	3.00	The second secon	0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			8,561.0	8,562.0	3.00	resemble to the depth of the de	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			8,600.0	8,601.0	3.00	And the state of t	0.360	EXP/	3.375	120.00		1	PRODUCTIO N	
	MESAVERDE/			8,633.0	8,634.0	3.00	and a second	0.360	EXP/	3.375	120.00		1	PRODUCTIO N	
	MESAVERDE/			8,646.0	8,647.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	

### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-Ti S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/i Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/21/2013 12:00AM	MESAVERDE/			8,669.0	8,670.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			8,741.0	8,742.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/	A COLUMNIA DE LA COLUMNIA DEL COLUMNIA DE LA COLUMNIA DEL COLUMNIA DE LA COLUMNIA		8,789.0	8,791.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	111111111111111111111111111111111111111
1/21/2013 12:00AM	MESAVERDE/			8,821.0	8,822.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	The state of the s
1/21/2013 12:00AM	MESAVERDE/	THE LEADING TO THE TANK		8,836.0	8,837.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	770000000000000000000000000000000000000
1/21/2013 12:00AM	MESAVERDE/			8,906.0	8,907.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/	1		8,939.0	8,940.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/		AND	8,966.0	8,967.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	11.00
1/21/2013 12:00AM	MESAVERDE/			8,975.0	8,976.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,005.0	9,006.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,042.0	9,043.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/			9,086.0	9,088.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/		A delimental delimenta	9,141.0	9,143.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1/21/2013 12:00AM	MESAVERDE/	The sales of the s		9,285.0	9,287.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	e de la companya de l

### 3 Plots

Well: MORGAN	STATE 9	21-36I1BS B	LUE					Spud Date: 8/5/2012
Project: UTAH-U	IINTAH			Site: MOF	RGAN ST	ATE 921	-36I PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLE	TION			Start Date	: 12/5/20	12		End Date: 2/1/2013
Active Datum: R Level)	KB @5,0	59.00usft (ab	ove Mean Se	a	UWI: NE	E/SE/0/9/	S/21/E/36	S/0/0/26/PM/S/2096/E/0/729/0/0
Date	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
8/5/2012		-						
12/5/2012	11:00	- 11:15	0.25	FRAC	33	С	Р	RU HOT OILER, FILLED SURFACE WITH 1 BBLS H20 PRESSURED 8 5/8 X 4 1/2 ANNULAR TO 1500 PSI, NO BLEED OFF , BLED WELL OFF MOVED TO NEXT WELL
12/6/2012		-						
1/15/2013	11:30	- 12:15	0.75	FRAC	33	С	P	FILL SURFACE CSG. MIRU CAMERON QUICK TEST. 1ST PSI TEST T/7000 PSI. HELD FOR 15 MIN LOST 61 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL,SWIFN
1/21/2013	8:00	- 13:00	5.00	SUBSPR	37	В	Р	HSM. EQUALIZING WELL, MIRU CASED HOLE

SOLUTONS, PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN

PROCEDURE,

2/21/2013 11:08:49AM 1

						KIES RE Summa	EGION I <b>ry Report</b>	
Well: MORGAN S	STATE 921-36I1BS I	BLUE				<del></del>	Spud Date: 8/5	5/2012
Project: UTAH-U	INTAH		Site: MC	RGAN ST	ATE 921	-36I PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLE	TION		Start Da	te: 12/5/20	012			End Date: 2/1/2013
Active Datum: Rh Level)	KB @5,059.00usft (a	bove Mean S	еа	UWI: N	E/SE/0/9/	/S/21/E/36	/0/0/26/P <b>M</b> /S/20	96/E/0/729/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/22/2013	7:00 - 17:00	10.00	FRAC	36	В	P		PERF & FRAC FOLLOWING WELL AS PER DESIGN W/ 30/50 MESH SAND & SLK WTR.  ALL CBP'S ARE HALIBURTON 8K CBP'S. REFER TO STIM PJR FOR FLUID, SAND AND CHEMICL VOLUME PUM'D  FRAC STG #1] WHP=1,624#, BRK DN PERFS=3,574#, @=4.2 BPM, INJ RT=50.9, INJ PSI=5,517#, INITIAL ISIP=2,778#, INITIAL FG=.74, FINAL ISIP=3,074#, FINAL FG=.77, AVERAGE RATE=49.8, AVERAGE PRESSURE=5,472#, MAX RATE=51, MAX PRESSURE=6,228#, NET PRESSURE INCREASE=296#, 21/21 100% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,016', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #2] WHP=2,185#, BRK DN PERFS=3,804#, @=4.7 BPM, INJ RT=49.3, INJ PSI=5,406#, INITIAL ISIP=2,372#, INITIAL FG=.70, FINAL ISIP=2,943#, FINAL FG=.77, AVERAGE RATE=49.1, AVERAGE PRESSURE=4,830#, MAX RATE=50.3, MAX PRESSURE=5,828#, NET PRESSURE INCREASE=571#, 20/21 95% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,801', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #3] WHP=2,108#, BRK DN PERFS=2,695#, @=5.1 BPM, INJ RT=49,9, INJ PSI=4,536#, INITIAL ISIP=2,181#, INITIAL FG=.69, FINAL ISIP=2,650#, FINAL FG=.74, AVERAGE RATE=49.5, AVERAGE PRESSURE=4,391#, MAX RATE=52.8, MAX PRESSURE=5,574#, NET PRESSURE INCREASE=469#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE
				****				PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,492', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW SWIFN

2/21/2013 11:08:49AM

2

Vell: MORGAN	STATE 921-3611BS I	BLUE					Spud Date: 8/5	5/2012
roject: UTAH-U	IINTAH		Site: MO	RGAN ST	ATE 921	-36I PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
vent: COMPLE	TION		Start Dat	e: 12/5/20	 D12			End Date: 2/1/2013
ctive Datum: R	KB @5,059.00usft (a	bove Mean Se	a	UWI: N	E/SE/0/9/	S/21/E/36	/0/0/26/PM/S/20	96/E/0/729/0/0
evel)								
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/23/2013	7:00 - 17:30	10.50	FRAC	36	В	P	(GOL)	FRAC STG #4] WHP=1,553#, BRK DN PERFS=3,849#, @=4.9 BPM, INJ RT=49.8, INJ PSI=5,036#, INITIAL ISIP=2,181#, INITIAL FG=.70, FINAL ISIP=2,588#, FINAL FG=.75, AVERAGE RATE=49.8, AVERAGE PRESSURE=4,585#, MAX RATE=50.5, MAX PRESSURE=5,530#, NET PRESSURE INCREASE=412#, 21/24 88% CALC PERFS OPEN. X OVER TO WIRE LINE  PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,211', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW  FRAC STG #5] WHP=1,267#, BRK DN PERFS=2,974#, @=5 BPM, INJ RT=49.8, INJ PSI=4,970#, INITIAL ISIP=2,030#, INITIAL FG=.69, FINAL ISIP=2,627#, FINAL FG=.76, AVERAGE RATE=48.3, AVERAGE PRESSURE=4,584#, MAX RATE=52.8, MAX PRESSURE=5,858#, NET PRESSURE INCREASE=597#, 20/24 83% CALC PERFS OPEN. X OVER TO WIRE LINE  PERF STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,873', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW [MISS FIRE, TOP GUN ON STRING DID NOT SHOOT, POOH FIX PROBLEM AND SHOOT TOP INTERVAL]
								FRAC STG #6] WHP=213#, BRK DN PERFS=3,153#, @=4.7 BPM, INJ RT=50, INJ PSI=4,167#, INITIAL ISIP=1,859#, INITIAL FG=.68, FINAL ISIP=2,552#, FINAL FG=.77, AVERAGE RATE=49.7, AVERAGE PRESSURE=4,466#, MAX RATE=50.5, MAX PRESSURE=4,858#, NET PRESSURE INCREASE=693#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE
1/24/2013	7:00 - 7:15	0.25	FRAC			P		PERF STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,599', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW SWFN HSM, WORKING AROUND WIRELINE

3

2/21/2013

Well: MORGAN	STATE 921-36I1BS I	BLUE					Spud Date: 8/	5/2012
Project: UTAH-U	INTAH		Site: MC	DRGAN ST	ATE 921	-36I PAD	<u>.</u>	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLE	TION		Start Da	te: 12/5/20	012			End Date: 2/1/2013
Active Datum: RI Level)	KB @5,059.00usft (a	bove Mean Se	еа	UWI: NE	E/SE/0/9/	S/21/E/36	/0/0/26/PM/S/20	96/E/0/729/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 14:30	7.25	FRAC	36	В	Р		FRAC STG #7] WHP=1,262#, BRK DN PERFS=2,651#, @=4.5 BPM, INJ RT=49.8, INJ PSI=5,182#, INITIAL ISIP=1,448#, INITIAL FG=.63, FINAL ISIP=2,338#, FINAL FG=.75, AVERAGE RATE=49.8, AVERAGE PRESSURE=3,992#, MAX RATE=50.5, MAX PRESSURE=4,858#, NET PRESSURE INCREASE=890#, 16/24 67% CALC PERFS OPEN. X OVER TO WIRE LINE  PERF STG #8] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,267', PERF WASATCH USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS
								USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW  FRAC STG #8] WHP=808#, BRK DN PERFS=2,511#, @=4 BPM, INJ RT=49.4, INJ PSI=2,306#, INITIAL ISIP=1,093#, INITIAL FG=.59, FINAL ISIP=2,180#, FINAL FG=.74, AVERAGE RATE=49, AVERAGE PRESSURE=4,159#, MAX RATE=50.2, MAX PRESSURE=5,023#, NET PRESSURE INCREASE=1,087#, 18/24 75% CALC PERFS OPEN. X OVER TO WIRE LINE  PERF STG #9] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=6,856', PERF WASATCH USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #9] WHP=0#, BRK DN PERFS=2,158#, @=5.1 BPM, INJ RT=41.5, INJ PSI=4,913#, INITIAL ISIP=1,243#, INITIAL FG=.62, FINAL ISIP=1,934#, FINAL FG=.73, AVERAGE RATE=49.6, AVERAGE PRESSURE=4,369#, MAX RATE=52.4, MAX PRESSURE=5,300#, NET PRESSURE INCREASE=691#, 13/21 62% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #10] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=6,529', PERF WASATCH USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #10] WHP=896#, BRK DN PERFS=1,806#, @=5.5 BPM, INJ RT=49.6, INJ PSI=3,339#, INITIAL ISIP=1,386#, INITIAL FG=.66, FINAL ISIP=1,623#, FINAL FG=.69, AVERAGE RATE=49.1, AVERAGE PRESSURE=3,336#, MAX RATE=50.3, MAX PRESSURE=4,050#, NET PRESSURE INCREASE=237#, 21/21 100% CALC PERFS OPEN. X OVER TO WRE LINE
								P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=6,148
								TOTAL FLUID PUMP'D=9,913 BBLS

							dan jer	REGION I <b>ary Report</b>	
Well: MORGAN	STATE 9	921-36I1BS I	BLUE				-	Spud Date: 8/5	/2012
Project: UTAH-U	INTAH			Site: MOI	RGAN S	ΓΑΤΕ 921	-36I PAI	D	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLE	TION			Start Dat	e: 12/5/2	012			End Date: 2/1/2013
Active Datum: RI Level)	⟨B @5,0	059,00usft (a	bove Mean So	еа	UWI: N	E/SE/0/9/	'S/21/E/3	86/0/0/26/PM/S/209	6/E/0/729/0/0
Date	S	Time tart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/31/2013	7:00	- 7:30	0.50	DRLOUT	48		Р		TOTAL SAND PUMP'D=222,266# jsa-safety meeting
	7:30	- 9:30	2.00	DRLOUT	30	Α	Р		MIRU SERVICE UNIT, N/D WH, N/U BOPS,
	9:30	- 15:00	5.50	DRLOUT	31	I	Р		P/U 3 7/8" BIT AND POBS, RIH W/ 2 3/8" L-80 TBG W/ TALLY TBG IN WELL, TAG KILL PLUG, R/U DRILLING EQUIPT, PREPARE TO DRILL OUT IN AM, SWI SDFN
2/1/2013	7:00	- 7:15	0.25	DRLOUT	48		Р		JSA-SAFETY MEETING

2/21/2013 11:08:49AM

Well: MORGAN	STATE 921-3611BS E	BLUE					Spud Date: 8/5	/2012
Project: UTAH-U	INTAH		Site: MOI	RGAN ST	ATE 921	-36I PAD	- 184	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLE	TION		Start Dat	e: 12/5/20	12			End Date: 2/1/2013
Active Datum: RI Level)	KB @5,059.00usft (al	bove Mean Se	ea	UWI: NE	E/SE/0/9/	S/21/E/36/	0/0/26/PM/S/209	96/E/0/729/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
Date	The state of the s	1	DRLOUT	44	l	P		NO PRESSURE ON WELL, PRESSURE TEST CSG AND BOPS TO 2500# OK, RIH TAG SAND @ 6140', ESTB CIRC DN TBG OUT CSG, C/O SAND TO 6148'. (DRLG CBP # 1) 6148', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 250# DIFF, RIH TAG SAND @ 6504 ', C/O 25 ' SAND, FCP = 25 #,  DRLG CBP # 2) 6529', DRILL OUT HALLIBURTON 8K CBP IN 7 MIN, 100 # DIFF, RIH TAG SAND @ 6826', C/O 30 ' SAND, FCP = 25 #,  DRLG CBP # 3) 6856', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 0 # DIFF, RIH TAG SAND @ 7237 ', C/O 30' SAND, FCP = 25 #,  DRLG CBP # 4) 7267', DRILL OUT HALLIBURTON 8K CBP IN 7 MIN, 350 # DIFF, RIH TAG SAND @ 7569 ', C/O 30 ' SAND, FCP = 50 #,  DRLG CBP # 5) 7599', DRILL OUT HALLIBURTON 8K CBP IN 7 MIN, 350 # DIFF, RIH TAG SAND @ 7843 ', C/O 30 ' SAND, FCP = 75 #,  DRLG CBP # 6) 7873', DRILL OUT HALLIBURTON 8K CBP IN 7 MIN, 450# DIFF, RIH TAG SAND @ 8181 ', C/O 30 ' SAND, FCP = 100 #,  DRLG CBP # 7) 8211', DRILL OUT HALLIBURTON 8K CBP IN 10 MIN, 800# DIFF, RIH TAG SAND @ 8452 ', C/O 50 ' SAND, FCP = 200#,  DRLG CBP # 8) 8492', DRILL OUT HALLIBURTON 8K CBP IN 6 MIN, 1000 # DIFF, RIH TAG SAND @ 8776 ', C/O 25 ' SAND, FCP = 450 #  DRLG CBP # 9) 8801', DRILL OUT HALLIBURTON 8K CBP IN 6 MIN, 850 # DIFF, RIH TAG SAND @ 8776 ', C/O 25 ' SAND, FCP = 450 #  DRLG CBP # 10) 9016', DRILL OUT HALLIBURTON 8K CBP IN 10 MIN, 800 # DIFF, RIH TAG SAND @ 8976 ', C/O 25 ' SAND, FCP = 600 #,  DRLG CBP # 10) 9016', DRILL OUT HALLIBURTON 8K CBP IN 10 MIN, 800 # DIFF, RIH TAG SAND @ 9383 ', PBTD, FCP = 450 #, CIRC WELL CLEAN, P/O LAY DN 19 JTS ON TRAILER, R/D SWIVEL.
								LAND TBG IN WELL W/ 277 JTS 2 3/8" L80 TBG @ 8788', N/D BOPS, N/U WH, DROP BALL DN TBG, PUMP BIT OFF @ 2100 #, TURN WELL OVER TO FLOW BACK
								CREW W/ 8,894 BBLS WTR LEFT TO RECOVER. R/D UNIT MOVE TO NEXT WELL,
								KB = 24.00'
								HANGER = .83'
								277 JTS 2 3/8" L-80 TBG = 8760,92'

2/21/2013 11:08:49AM

#### **US ROCKIES REGION Operation Summary Report** Well: MORGAN STATE 921-3611BS BLUE Spud Date: 8/5/2012 Project: UTAH-UINTAH Site: MORGAN STATE 921-36I PAD Rig Name No: ROCKY MOUNTAIN WELL SERVICE Event: COMPLETION Start Date: 12/5/2012 End Date: 2/1/2013 Active Datum: RKB @5,059.00usft (above Mean Sea UWI: NE/SE/0/9/S/21/E/36/0/0/26/PM/S/2096/E/0/729/0/0 Level) Date Phase Code P/U Time Duration Sub MD From Operation Start-End (hr) Code (usft) POBS X-N NIPPLE 2.201 EOT 8787.95 315 JTS 2 3/8" L-80 TBG DELVERED 277 JTS 2 3/8" L-80 TBG LANDED 38 JTS 2 3/8" L-80 TBG RETURNED 15:00 ~ 15:00 0.00 DRLOUT 50 WELL IS TURNED TO SALES @ 1400 HR ON 2/1/2013. 2400 MCFD, 1920 BWPD, FCP 2100#, FTP 2360#, 20/64" CK. 7:00 2/2/2013 50 WELL IP'D ON 2/2/13 - 2208 MCFD, 0 BWPD, 0

BOPD, CP 2322#, FTP 1707#, LP 161#, 24 HRS, CK

7

20/64

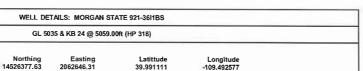
2/21/2013 11:08:49AM



Project: UTAH - UTM (feet), NAD27, Zone 12N Site: MORGAN STATE 921-36I

Well: MORGAN STATE 921-36I1BS

Wellbore: OH Design: OH

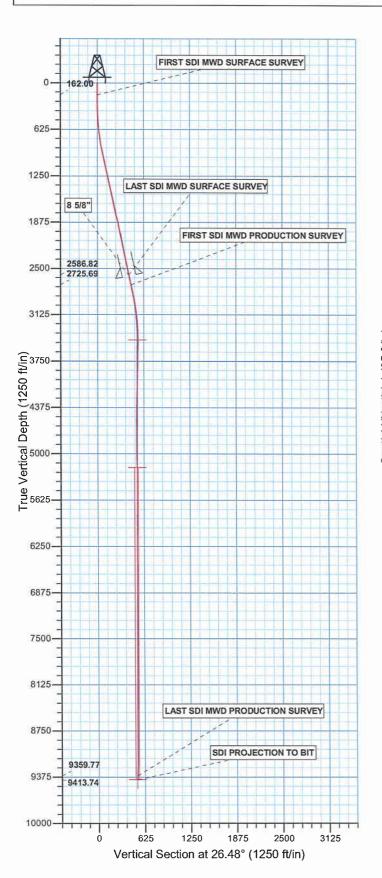


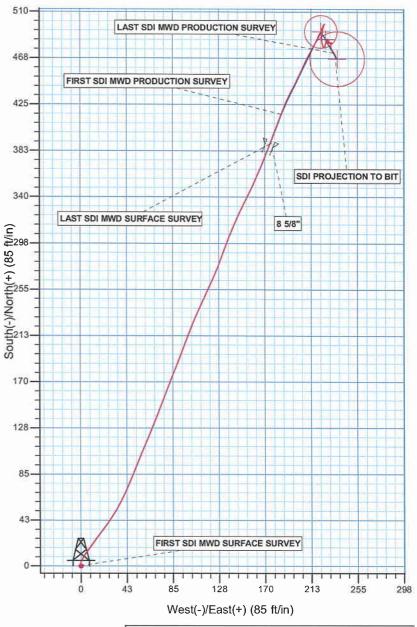




Azimuths to True North Magnetic North: 11.01°

Magnetic Field Strength: 52278.3snT Dip Angle: 65.85° Date: 12/02/2011 Model: IGRF2010





PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)

Location: SECTION 36 T9S R21E System Datum: Mean Sea Level

Design: OH (MORGAN STATE 921-36I1BS/OH)

Created By: Gabe Kendall Date: 11:38, October 11 2012



# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36I MORGAN STATE 921-36I1BS

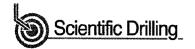
OH

Design: OH

# **Standard Survey Report**

11 October, 2012







Company:

US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: MORGAN STATE 921-36I Well: MORGAN STATE 921-36I1BS

Wellbore: Design;

ОН ОН Local Co-ordinate Reference:

TVD Reference: MD Reference

North Reference:

System Datum:

**Survey Calculation Method:** 

Database:

Well MORGAN STATE 921-3611BS

GL 5035 & KB 24 @ 5059.00ft (HP 318) GL 5035 & KB 24 @ 5059.00ft (HP 318)

True

Minimum Curvature

EDM 5000.1 Single User Db

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System:

Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Geo Datum:

Map Zone: Zone 12N (114 W to 108 W) Mean Sea Level

Site MORGAN STATE 921-36I, SECTION 36 T9S R21E

Site Position: From:

Northing: Easting:

14,526,390.12 usft

Latitude:

Longitude:

39,991146

**Position Uncertainty:** 

0.00 ft

Slot Radius:

2,062,630,69 usft

-109,492632

13.200 in

Grid Convergence:

0.97°

Well MORGAN STATE 921-36I1BS, 2096 FSL 729 FEL

Well Position

+N/-S +E/-W

Lat/Long

0.00 ft 0.00 ft Northing: Easting:

14,526,377.64 usft

2,062,646.31 usft

Latitude: Longitude:

39.991111 -109.492577

**Position Uncertainty** 

0.00 ft

Wellhead Elevation:

ft

Ground Level:

5,035;00 ft

Wellbore OH Magnetics **Model Name** Sample Date Declination Dip Angle Field Strength (°) (°) (nT) IGRF2010 12/02/11 11.01 65.85 52.278

Design OH **Audit Notes:** Version: 1.0 Phase: ACTUAL Tie On Depth: 0.00 **Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 26,48

Survey Program Date 10/11/12 From Τo (ft) (ft) Survey (Wellbore) **Tool Name** Description 20.00 2,630.00 Survey #1 SDI MWD SURFACE (OH) SDI MWD SDI MWD - Standard ver 1.0.1 2.772.00 9,468.00 Survey #2 SDI MWD PRODUCTION (OH) SDI MWD SDI MWD - Standard ver 1.0.1

ey			Transaction (Control		Principal Control	engana da da			A Francisco
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
162.00	0.28	301.45	162.00	0.18	-0.30	0.03	0.20	0.20	0.00
FIRST SDI N	IWD SURFACE S	SURVEY							
192.00	0.35	305.01	192.00	0.27	-0.43	0.05	0.24	0.23	11.87
275.00	0.97	354.58	274.99	1.12	-0.71	0.68	0.95	0.75	59.72
360.00	1.67	20,95	359.97	2.99	-0.33	2.53	1.07	0.82	31.02
452.00	2.73	24.20	451.90	6.24	1.04	6.05	1.16	1.15	3.53
542.00	4.31	34.92	541.73	10.97	3.86	11.54	1.89	1.76	11.91
632.00	6.24	35.89	631.35	17.70	8.66	19.71	2.15	2.14	1.08





Company: Project: US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

Site: MORGAN STATE 921-36|
Well: MORGAN STATE 921-36|1BS

Wellbore: OH Design: OH Local Co-ordinate Reference: TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Database:

Well MORGAN STATE 921-36I1BS GL 5035 & KB 24 @ 5059.00ft (HP 318) GL 5035 & KB 24 @ 5059.00ft (HP 318)

True

Minimum Curvature EDM 5000.1 Single User Db

						KB/2003/96/24			
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(性)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
722.00	8.09	36.24	720.64	26.78	15.27	30.78	2.06	2.06	0.39
812.00	10.11	36,24	809.50	38.26	23.69	44.81	2.24	2.24	0.00
902.00	11.26	30.53	897.94	52.20	32.82	61.36	1.74	1.28	-6.34
992.00	12.40	23.85	986.03	68.60	41.19	79.78	1.98	1.27	-7.42
1,082.00	12.93	22.18	1,073.84	86.77	48,90	99.47	0.72	0.59	-1.86
1,172.00	12.05	23.15	1,161.71	104.73	56.40	118.89	1.01	-0.98	1.08
1,262.00	12.05	22.71	1,249.73	122.03	63.72	137.64	0.10	0.00	-0.49
1,352.00	12.40	21.04	1,337.69	139.72	70.81	156.64	0.55	0.39	-1.86
1,442.00	11.78	20.77	1,425.69	157.33	77.54	175.40	0.69	-0.69	-0.30
1,532.00	12,13	21.83	1,513.74	174.69	84.32	193.96	0.46	0.39	1.18
1,622.00	12.93	21.32	1,601.60	192.85	91.49	213.42	0.90	0.89	-0.57
1,712.00	13.01	20.33	1,689.30	211.73	98.67	233.52	0.26	0.09	-1.10
1,802.00	12.93	23.50	1,777.00	230.47	106.21	253.64	0.80	-0.09	3.52
1,892.00	13.19	25,52	1,864.68	248,97	114.65	273.97	0.58	0.29	2.24
1,982.00	12.57	22.88	1,952.41	267.26	122.88	294.01	0.95	-0.69	-2.93
2,072.00	11.34	20.51	2,040.46	284,57	129.79	312.58	1.47	-1.37	-2.63
2,162.00	11,24	21.01	2,128.72	301.04	136.03	330.12	0.16	-0.11	0.56
2,252.00	11.08	24.03	2,217.02	317.13	142.70	347.49	0.67	-0.18	3.36
2,342,00	11.96	26.84	2,305.20	333.35	150.43	365.45	1.16	0.98	3.12
2,432.00	12.13	24.90	2,393.22	350.25	158.62	384.23	0.49	0.19	-2.16
2,522.00	12,13	21.92	2,481.21	367.60	166,13	403.11	0.70	0.00	-3.31
2,612.00	12.05	21.04	2,569.22	385.14	173.04	421.89	0.22	-0.09	-0.98
2,630.00	12.05	21.30	2,586.82	388.64	174.39	425.63	0.30	0.00	1.44
	WD SURFACE S								a la alfordina. Salam
2,772.00	12.05	20.40	2,725.69	416.34	184.94	455.13	0.13	0.00	-0.63
	IWD PRODUCTION	4 1 4 1 5 5 7 4 4 4 4 4 4 4 4 4 4 4							
2,866.00	12.30	27.38	2,817.58	434.43	192.97	474.90	1.59	0.27	7.43
2,961.00	10.82	25.23	2,910.65	451.49	201.42	493.93	1.62	-1.56	-2.26
3,055.00	8.79	25.41	3,003.28	465.96	208.27	509.94	2.16	-2.16	0.19
3,149.00	7.74	28.75	3,096.30	477.99	214.39	523.44	1.23	-1.12	3,55
3,244.00	5.28	24.97	3,190.68	487.57	219.32	534.21	2.63	-2.59	-3.98
3,338.00	3.43	21.89	3,284.40	494.10	222.19	541.33	1.98	-1.97	-3.28
3,433.00	1.85	33.14	3,379.30	498.02	224.09	545.69	1.74	-1.66	11.84
3,527.00	0.44	206.81	3,473.29	498.97	224.76	546.83	2.43	-1.50	184.76
3,622.00	0.79	191.61	3,568.28	498.00	224.46	545.84	0.40	0.37	-16.00
3,716.00	0.88	201.63	3,662.27	496.69	224.06	544.49	0.18	0.10	10.66
3,811.00	0.79	195.39	3,757.26	495.38	223.62	543.12	0.13	-0.09	-6.57
3,905.00	1.14	194.68	3,851.25	493.85	223.21	541.57	0.37	0.37	-0.76
3,999.00	1.06	194.77	3,945.23	492.11	222.75	539.80	0.09	-0.09	0.10
4,094.00	1.41	183.87	4,040.21	490.09	222.45	537.86	0.44	0.37	-11.47
4,188.00	1.85	181.06	4,134.17	487.42	222.34	535.43	0.48	0.47	-2.99
4,282.00	1.93	179.13	4,228.12	484.32	222.34	532.65	0.11	0.09	-2.05
4,376.00	0.88	167.96	4,322.09	482.03	222.52	530.68	1.15	-1.12	-11.88





Company: Project

**US ROCKIES REGION PLANNING** UTAH - UTM (feet), NAD27, Zone 12N

Site: MORGAN STATE 921-36I Well: MORGAN STATE 921-3611BS

Wellbore: ОН Design: ОН Local Co-ordinate Reference: TVD Reference:

MD Reference: **North Reference:** 

Survey Calculation Method:

Database:

Well MORGAN STATE 921-3611BS GL 5035 & KB 24 @ 5059.00ft (HP 318) GL 5035 & KB 24 @ 5059.00ft (HP 318)

True

Minimum Curvature EDM 5000.1 Single User Db

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Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Section (ft)	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)
4,470.00	1.41	170.34	4,416.07	480.19	222.86	529.18	0.57	0.56	2,53
4,565.00	0.44	154.61	4,511.06	478.71	223,21	528.01	1.05	-1.02	-16.56
4,659.00	0.35	140.54	4,605.06	478.16	223.55	527.67	0.14	-0.10	-14.97
4,753.00	0.44	143.79	4,699.05	477.64	223.95	527.39	0.10	0.10	3.46
4,848.00	1.14	20.22	4,794.05	478.24	224.49	528.16	1.51	0.74	-130.07
4,942.00	0.97	24.53	4,888.03	479.84	225.14	529.89	0.20	-0.18	4.59
5,037.00	0.70	27.34	4,983.02	481.09	225.74	531,27	0.29	-0.28	2.96
5,131.00	0.62	53.44	5,077.02	481.90	226.41	532.30	0.33	-0.09	27.77
5,225.00	0.62	75.59	5,171.01	482.33	227.31	533,08	0.25	0.00	23.56
5,320.00	0.53	104.07	5,266.01	482.35	228.24	533.51	0.31	-0.09	29.98
5,414.00	0.53	111.98	5,360.00	482.08	229.06	533.64	0.08	0.00	8.41
5,508.00	0.79	329.16	5,454.00	482.47	229.13	534.03	1.33	0.28	-151.94
5,603.00	0.70	328.63	5,548.99	483.53	228.50	534.69	0.10	-0.09	-0.56
5,697.00	0.53	335.13	5,642,99	484.42	228.02	535,27	0.20	-0.18	6.91
5,792.00	0.26	306.30	5,737.98	484.94	227.66	535.58	0.34	-0.28	-30.35
5,886.00	0.26	267.72	5,831.98	485.06	227.27	535.51	0.18	0.00	-41.04
5,981.00	0.26	205.32	5,926.98	484.86	226.96	535.19	0.28	0.00	-65,68
6,075.00	0.44	190.90	6,020.98	484.31	226.80	534.63	0.21	0.19	-15.34
6,169,00	0.53	185.72	6,114.98	483,52	226.69	533.88	0.11	0.10	-5.51
6,264.00	0.70	180.97	6,209.97	482.51	226.64	532.94	0.19	0.18	-5.00
6,358.00	0.70	152.76	6,303,96	481,42	226.89	532.08	0.36	0.00	-30.01
6,453.00	0.35	359.39	6,398.96	481.20	227.16	532.00	1.08	-0.37	-161.44
6,547.00	0.42	64.98	6,492.96	481.63	227.46	532.52	0.45	0.07	69.78
6,642.00	0.53	95.63	6,587.96	481.73	228,22	532.95	0.29	0.12	32.26
6,736.00	0.62	106.44	6,681.95	481.55	229.14	533.20	0.15	0.12	11.50
6,829.00	0.62	120.86	6,774.95	481.15	230.05	533.25	0.17	0.00	15.51
6,924.00	0.70	131.67	6,869.94	480.50	230.93	533.05	0.16	0.08	11.38
7,018.00	0.62	5.89	6,963.94	480.62	231.41	533.38	1.25	-0.09	-133.81
7,113.00	0.44	34.72	7,058.93	481.43	231.67	534.22	0.33	-0.19	30.35
7,207.00	0.97	276.95	7,152.93	481.82	231.08	534.31	1.32	0.56	-125.29
7,302.00	0.88	275,19	7,247,92	481.99	229.56	533.78	0.10	-0.09	-1.85
7,396.00	0.88	284.77	7,341.91	482.24	228.14	533.37	0.16	0.00	10.19
7,491.00	0.35	354,47	7,436.90	482,71	227,41	533,47	0.10	-0.56	73.37
7,585.00	0.35	344,27	7,530.90	483.27	227.30	533.92	0.07	0.00	-10.85
7,680.00	0.18	139,66	7,625.90	483.44	227.32	534.08	0.55	-0.18	163.57
7,774.00	0.18	138,52	7,719.90	483,22	227.51	533.97	0.00	0.00	-1.21
7,869.00	0.53	154.69	7,814.90	482.71	227.80	533.64	0.38	0.37	17.02
7,963.00	0,35	217.53	7,908.89	482.09	227.81	533.09	0.51	-0.19	66.85
8,057.00	0.27	216.15	8,002.89	481.68	227.51	532.59	0.09	-0.09	-1.47
8,152.00	0.53	171.13	8,097.89	481.07	227.44	532.01	0.41	0.27	-47.39
8,246.00	0.69	17.34	8,191.89	481.18	227.68	532.21	1.26	0.17	-163.61
8,340.00		31.56	8,285.88	482.15	228.11	533.28	0.19	-0.07	15.13
8,435.00	0.44	69.44	8,380.88	482.72	228.72	534.06	0.40	-0.19	39.87
8,529.00	0.44	140.10	8,474.88	482.57	229.29	534.18	0.54	0.00	75.17





Company: Project: US ROCKIES REGION PLANNING

 Project:
 UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 MORGAN STATE 921-36I

 Well:
 MORGAN STATE 921-36I1BS

Wellbore: Design:

OH OH Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Database:

Well MORGAN STATE 921-36I1BS GL 5035 & KB 24 @ 5059.00ft (HP 318)

GL 5035 & KB 24 @ 5059.00ft (HP 318)

True

Minimum Curvature
EDM 5000.1 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,624.00	0.44	132.98	8,569.87	482.04	229.79	533.93	0,06	0.00	-7.49
8,718.00	0.09	199.87	8,663.87	481.72	230.03	533.75	0.44	-0.37	71.16
8,812.00	0.26	106.79	8,757.87	481.59	230.21	533.71	0.30	0.18	-99.02
8,907.00	0.35	186.25	8,852.87	481.24	230.39	533.48	0.42	0.09	83.64
9,001.00	0.79	185.28	8,946.87	480.31	230.30	532.61	0.47	0.47	-1.03
9,096.00	0.97	165.86	9,041.86	478.88	230.43	531.38	0.36	0.19	-20.44
9,190.00	1.23	163.66	9,135.84	477.14	230.91	530.04	0.28	0.28	-2.34
9,284.00	1.23	147.57	9,229.82	475.32	231.74	528.78	0.37	0.00	-17.12
9,379.00	1.67	146.08	9,324.79	473.31	233.05	527.57	0.46	0.46	-1.57
9,414.00	1.93	150.21	9,359.77	472.37	233.63	526.99	0.83	0.74	11.80
LAST SDI M	WD PRODUCTIO	N SURVEY			Mile Norvide	er in Peri			and Valle 1989
9,468.00	1.93	150.21	9,413.74	470.80	234.54	525.98	0.00	0.00	0.00

Depth D (ft)	ertical Septh (ft)		, and the second se	ame	Dian	neter Di	Hole ameter (in)	
2,646.00	2,602.47	8 5/8"				8.625	11.000	HALLOW THE CHILD OF THE PARTY CONT.

Measured	Vertical	Local Coo	rdinates	
Depth	Depth	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	Comment
162.00	162.00	0.18	-0.30	FIRST SDI MWD SURFACE SURVEY
2,630.00	2,586.82	388.64	174.39	LAST SDI MWD SURFACE SURVEY
2,772.00	2,725.69	416.34	184.94	FIRST SDI MWD PRODUCTION SURVEY
9,414.00	9,359.77	472.37	233.63	LAST SDI MWD PRODUCTION SURVEY
9,468.00	9,413.74	470.80	234.54	SDI PROJECTION TO BIT

Charlest But	Amman and Day	Date	
Checked By:	Approved By:	Date:	